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PRELIMS EXAM (2020)

STREAM: MSCIT - 3

SUB: Web Application Development using Django

MARKS: 70

Q-1(A) ANSWER THE FOLLOWING.(ANY ONE)

4

1. Give Full Form of IDLE ?
Integrated Development Learning Environment.
2. Explain Full Form of PEP.
Python Enhancement Proposal.
3. _____ is immutable object of python.
Tuple
4. _____ is the output of print(list1[3:4]) if list1=[2,4,5,6,8,9].
6

Q-1(B) ANSWER THE FOLLOWING. (ANY ONE)

2

1. Explain Strength and Weakness of Python.

Ans :- There are many advantages and disadvantages of python available which are as follow:

Strengths / Advantages :

1.Readability:

Python code is very easy to read and understand because it is general purpose language.

2. Simplicity:

It is easy start going with Python and it is easier to understand code written in Python.

3.Libraries:

Python has huge collection of Libraries which you can consider as python package.

Python Extension Packages for Windows.Also it is very easy to use libraries in Python, just install and import.

4. User Community:



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It has a huge and supportive user community, that's why so many people are using python now a days.

5.popularity:

There are certain circles that prefer Python for one reason or another. In the math community for example, there is quite a lot of existing code that can be leveraged. Also, Google has developed several open source projects in Python. So if you want to use them, learning Python is a good idea.

Weaknesses / Disadvantages :

1.Mobile Development:

Python can be consider as weak language for mobile computing and development.

2.Speed:

python code is executed by an interpreter which makes slow execution of the code.

3.Run Time Error:

Python need to be typed so that there may be chance to generate the errors related to path and syntax.

4.Database Access:

Python support only basic data access so it is not possible for users to provide high database functionalities.

2. Give difference between List and Tuple.

NO.	LIST	TUPLE
1.	List is mutable object of python	Tuple is immutable object of python.
2.	List is group of comma separated values within square brakets[.].	Tuple is group of comma separated values within parenthesis().
3.	If the content is not fixed and keep on changing then go for list.	If the content is fixed and never changes then go for tuple.



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Q-1(C) ANSWER THE FOLLOWING. (ANY ONE)

3

1. Explain Python Dictionary Datatype.

Ans :-

- In dictionary we have to manage our data by key and value pair.
- In dictionary each key is separated from its value using colon (:).
- In dictionary the key and value pairs are separated by comma (,).
- The keys are always unique but values can not be.
- We can create our dictionary using curly brackets { }.

```
1 d = { 'apple' : 5, 'orange' : 2 }
```

➤ Example :-

D1 = { 'name' : 'zara' , 'city' : 'rajkot' , 'age' : 5 }

How to access value from dictionary :-

➤ To access value from the dictionary , we have to use square bracket with particular key.

➤ Example :-

D1 = { 'name' : 'zara' , 'city' : 'rajkot' , 'age' : 5 }



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Print (“D1[‘name’]:” , D1[‘name’])

o/p :- zara

How to update value in dictionary :-

➤ You can update dictionary by adding new entry or by modifying existing entry.

➤ Example :-

```
D1 = {‘name’ : ‘zara’ , ‘city’ : ‘rajkot’ , ‘age’ : 5}
```

```
D1[‘school’] = ‘G.T. Girls’
```

```
# adding new entry
```

```
Print (D1)
```

```
D1[‘age’] = 10
```

```
#modifying existing entry
```

```
Print(D1)
```

How to delete value in the dictionary :-

➤ You can remove particular element from dictionary as well as you can clear entire dictionary.

➤ To remove all the entries from dictionary , clear() is used.

➤ Example :-

```
➤ D1 = {‘name’ : ‘zara’ , ‘city’ : ‘rajkot’ , ‘age’ : 5}
```

```
del (D1 [‘name’])
```

```
# removing single entry
```

```
print(D1)
```

```
del (D1)
```

```
# deleting entire dictionary
```

```
print(D1)
```

```
D1.clear()
```

```
# remove all entries in dictionary
```

```
Print(D1)
```

2. List out different operators in python and explain Membership operator with example.

Ans :-

➤ Operators are the constructs which can operate on different values.

➤ Python support mainly following operators :

- Arithmetic Operators
- Comparison (Relational) Operators
- Assignment Operators



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- Logical Operators
- Bitwise Operators
- Membership Operator
- Identity Operator



➤ **Membership Operators :**

- A Membership Operator in Python can be defined as being an operator that is used to validate the membership of a value.
- This operator is used to test memberships in variables such as strings, integers as well as tuples.

Python "in" and "not in" are membership operators. They are used to check if an element is present in a sequence/iterable or not.





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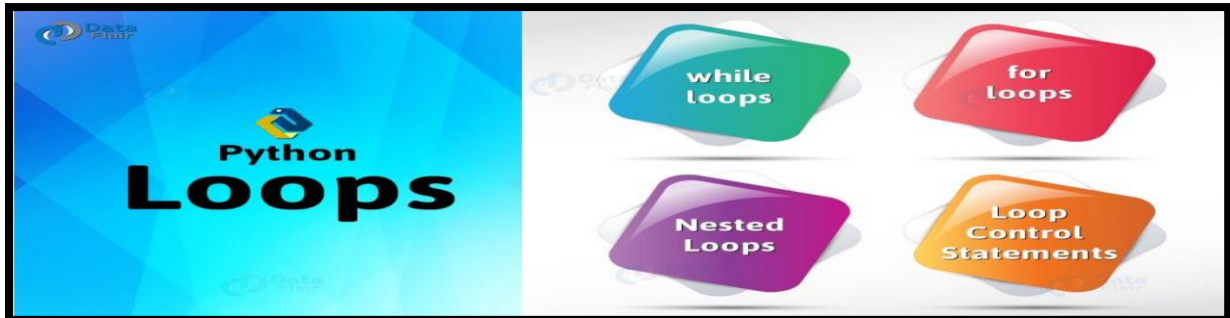
Operators	Description	Example
in	Returns True if the value or variable is found in the sequence, otherwise false.	5 in X
not in	Returns True if the value of variable is not found in the sequence, otherwise false.	6 not in Y

Q-1(D) ANSWER THE FOLLOWING. (ANY ONE)

5

1. **What is Loop ? Explain different types of loops in python.**

Ans:-



- Generally the statements are executed sequentially.
- When user want to execute group of the statements at that time looping statements are used.
- The main use of loop is to repeat the statements for number of times.
- Python programming support following types of looping statements:
 - While Loop
 - For Loop

Loop Type	Description
while loop	Repeats a statement or group of statements while a given



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	condition is TRUE. It tests the condition before executing the loop body.
for loop	Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.

While Loop :-

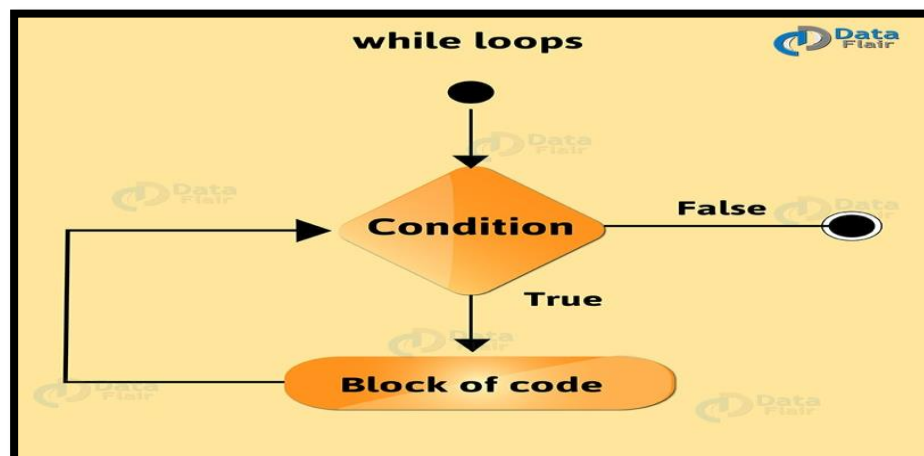
- While loop is known as entry – control loop.
- In this loop first of all condition will be checked and then after statement will be execute.
- If condition become true then the statement following while will be execture otherwise loop will be terminated.

➤ Syntax :-

```
While(<condition>):  
    <statement>  
    <increment/decrement>
```

➤ Example :-

```
i=1  
while(i<=10):  
    Print(i)  
    i=i+1
```





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For Loop :-

- For loop is used to execute block of the code for given number of times.
- First of all condition will be check and then after statement will be execute.

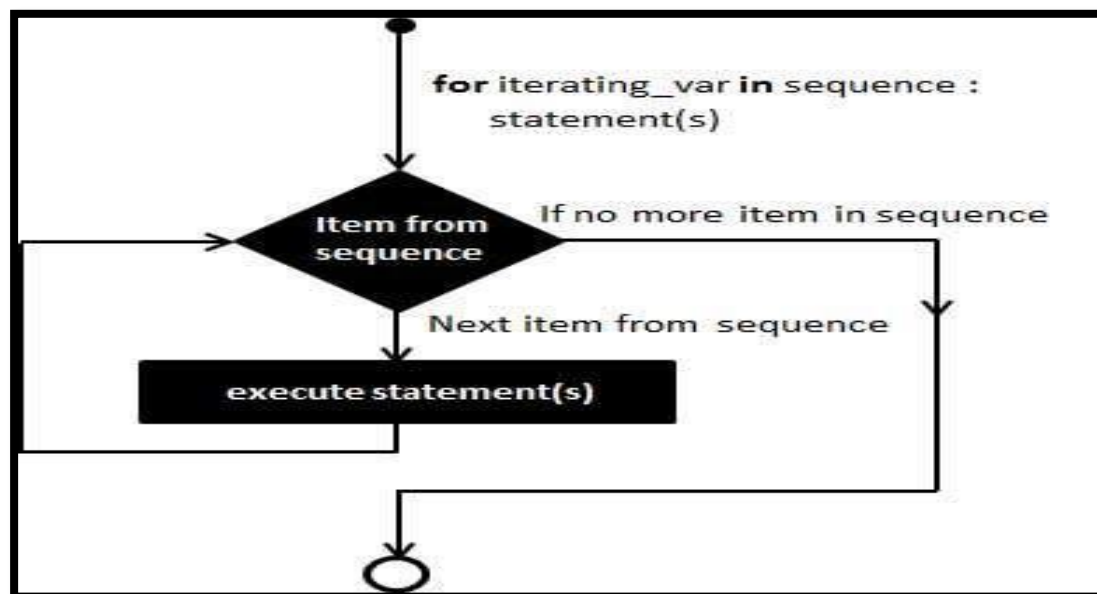
➤ Syntax :-

```
For <variable> in <sequence>:  
  <statement>
```

➤ Example :-

```
i=1  
fruits = ['apple' , 'banana' , 'mango']  
for i in fruits:  
  print(i)
```

- If a sequence contains an expression list, it is evaluated first.
- Then, the first item in the sequence is assigned to the iterating variable *iterating_var*.
- Next, the statements block is executed.
- Each item in the list is assigned to *iterating_var*, and the statement(s) block is executed until the entire sequence is exhausted.



2. How to define function in python? Explain with example.



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Ans:-

```
def add(x, y):  
    print(f'arguments are {x} and {y}')  
    return x + y
```

1. def keyword
2. function name
3. function arguments inside ()
4. colon ends the function definition
5. function code
6. function return statement

u

nction is block of re – usable code that is used to perform a single action.

- Python gives many built – in functions like print() , but you can also create your own function that is known as UDF.
- Functions provide better modularity for your application and a high degree of code reusing.
- You can define functions to provide the required functionality.

Defining a Function :-

- Function blocks begin with the keyword **def** followed by the function name and parentheses ().
- You can place any number of arguments inside the brackets().
- The code block of every function must start with colon (:).
- The statement of the block must be exit with 'return' keyword.

➤ Syntax :-

```
def <function name> (parameters):  
    <block of code>
```

Return

➤ Example :-

```
def sp():
```



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Print(“hello sp”)

return

Calling a Function :-

- If you create your own function , then you can execute it by calling the function with its name.
- You have to take care about name of the function and argument of the function.
- Syntax :-

<function name> (parameters):

- Example :-
Sp()

Passing parameters to function :-

- You can pass multiple arguments by separating it with comma (,).
- while passing multiple arguments always take care about number of arguments and types of arguments.
- Syntax :-

```
def <function name> (p1,p2,p3,.....,pn):  
    <block of code>
```

Return

- Example :-

```
def sp(str1 ,str2):  
    Print(“hello sp”)  
    Print(str1)  
    Print(str2)  
    return  
  
sp(“good”,“morning”)
```

Q-2(A) ANSWER THE FOLLOWING.(ANY ONE)

1. MVC stands for _____



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Model View Controller

2. What is web application?

Web application is client – server program that run by web browser.

3. What is Django command to start new app named 'user' in the existing project?

Python manage.py startapp user

4.What is Django command to run Django Development Server.

Python manage.py runserver

Q-2(B) ANSWER THE FOLLOWING.(ANY ONE)

2

1. **Explain Views.py with Example.**

- View is a python function that accept request and return response.
- This response can be html contents, web page , error, image or document.
- You can use view to create web pages and you have to add URL to see your webpages.
- Views.py can be available in application folder of your project.
- To create view in django consider following steps:

✓ **Steps :-**

- 1.Goto your project -> application -> views.py and open it in the editor.
- 2.Add the code that you want to view as webpage output.
- 3.When you open views.py file you will see the following line by default.
From django.http import HttpResponse
- 4.Now apply your code and save your file.
- 5.Finally , give the path of your view in application urls.py.
- 6.Run the server using the command :
python manage.py runserver

✓ **Example :-**

```
from django.http import HttpResponse
def hello(request):
    i="hello friends"
    return HttpResponse(i)
```



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```
~/Desktop/django/blog_django/mysite/my_app/views.py (blog_dja
my_app
  __pycache__
  migrations
  /* __init__.py
  /* admin.py
  /* apps.py
  /* models.py
  /* tests.py
  /* urls.py
  /* views.py
views.py
1 from django.shortcuts import render
2 from django.http import HttpResponseRedirect
3
4 # Create your views here.
5 def index(request):
6     return HttpResponseRedirect("Hello WORLD")
7
```

2. Write down use of urls.py and init.py.

Ans :-

[1] urls.py :-

- Django have its own way for URL mapping.
- Once we create views.py file in django then we can think about url to access particular path.
- It is done by creating or editing urls.py file.
- In urls.py file the most important thing is “urlpatterns”.
- Django automatically look for related view in views.py file.
- Now we can manage our content between urls and views.
- If you have view named hello then you can write url.py file for your application like following :

Example :-

```
From django.conf.urls import patterns,include,url
urlpatterns = [
    url(r'^$/' , 'views.hello',name='hello')
]
```



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[2] init.py :-

- Files named `__init__.py` are used to mark directories on disk as Python package directories.
- The `__init__.py` file is usually empty, but can be used to export selected portions of the package under more convenient name, hold convenience functions, etc.
- Python defines two types of packages, regular packages and namespace packages.
- Regular packages are traditional packages as they existed in Python 3.2 and earlier.
- A regular package is typically implemented as a directory containing an `__init__.py` file.
- When a regular package is imported, this `__init__.py` file is implicitly executed, and the objects it defines are bound to names in the package's namespace.
- The `__init__.py` file can contain the same Python code that any other module can contain, and Python will add some additional attributes to the module when it is imported.
- If you have the files;
`mydir/spam/__init__.py`
- `__init__.py` **allows you to define any variable at the package level.**

Q-2(C) ANSWER THE FOLLOWING.(ANY ONE)

3

1. Explain HTTP Request and Response Concept with example.

Ans :-

- HTTP stands for Hyper Text Transfer Protocol.
- HTTP is application level protocol for distributed system.
- HTTP is based on request and response mechanism.
- HTTP is foundation for data communication since 1990.
- HTTP is TCP/IP based protocol that used to transfer images , files and query results.
- The default port of TCP/IP can be TCP – 80.
- HTTP provide a standard way for communicating with each other.
- HTTP specify how request of the client should be accepted and sent it to server.

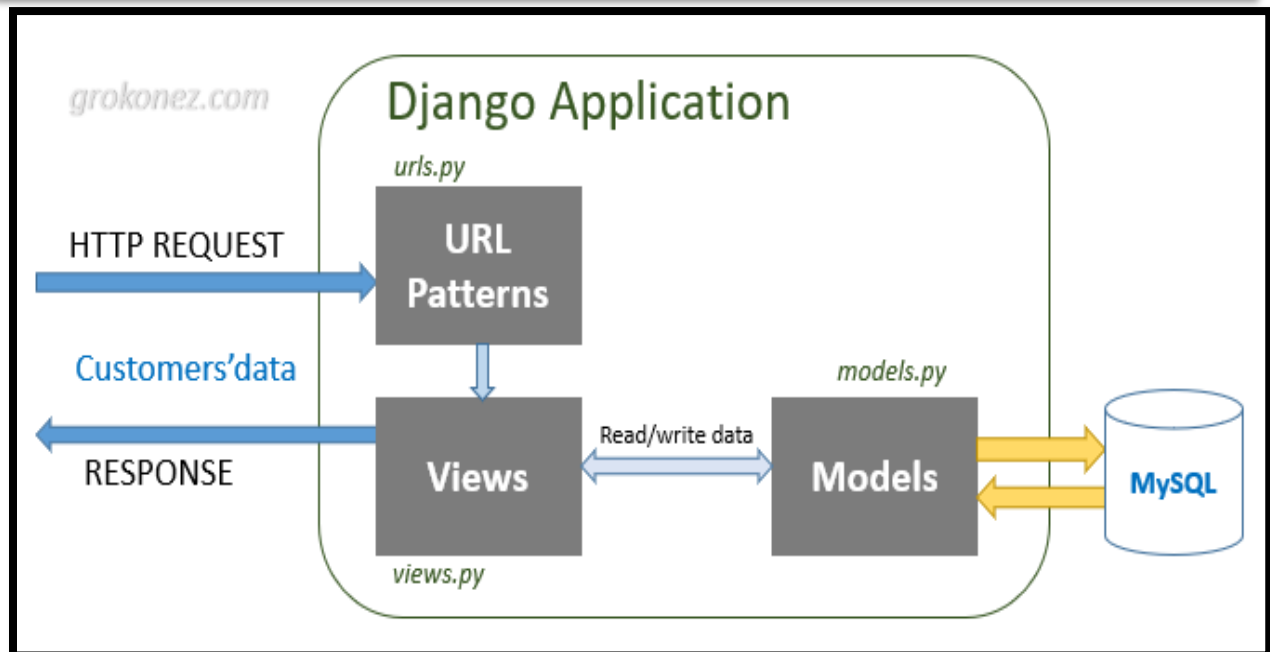
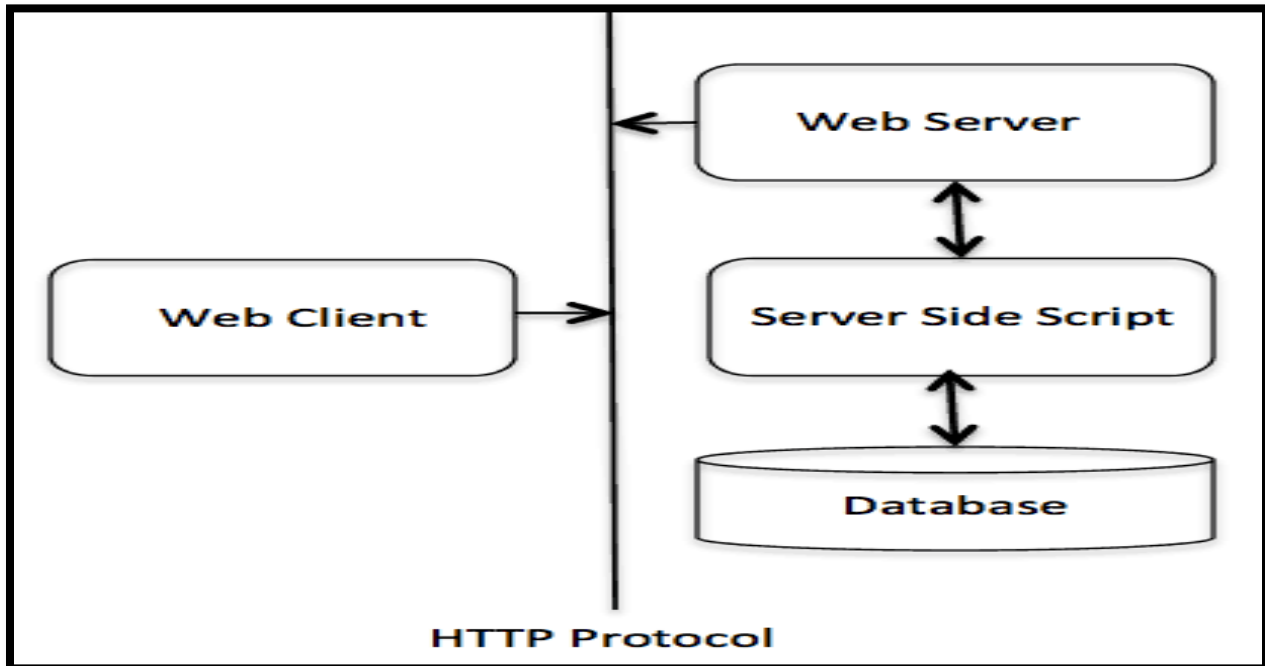


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- In HTTP structure , web browser will be act as web client.

Client :-



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- The role of HTTP Client is to send request to the server in form of URL and request method.
- It followed by MIME protocol [Multipurpose Internet Mail Extension] like a message related to client informations.

Server :-

- The HTTP server give response by including message , error or success output.
- Methods HTTP server support two methods HTTP GET and HTTP POST.
- HTTPGET() is request data from user and HTTPPOST() also used to carry data entered by user and give response.

2. Explain Django Project Architecture.

Ans :-

- In Django , we can create different projects with particular project structure.

Project Structure :-

- **my project /**
 - Manage.py
 - **my project /**
 - 1. __init__.py
 - 2.settings.py
 - 3.urls.py
 - 4.wsgi.py
- The sub folder name “my project “ is nothing but python package of your project which support four file.
 - __init__.py :- it is a python package that you can use for different files.
 - Settings.py :-it is a configuration for django project and tell you about how the settings work.
 - Urls.py :- it is a url declaration or path for current django project.
 - Wsgi.py :- wsgi stands for **web server gateway interface**.
 - It is entry point for WSGI web server and it used for deployment of your project.

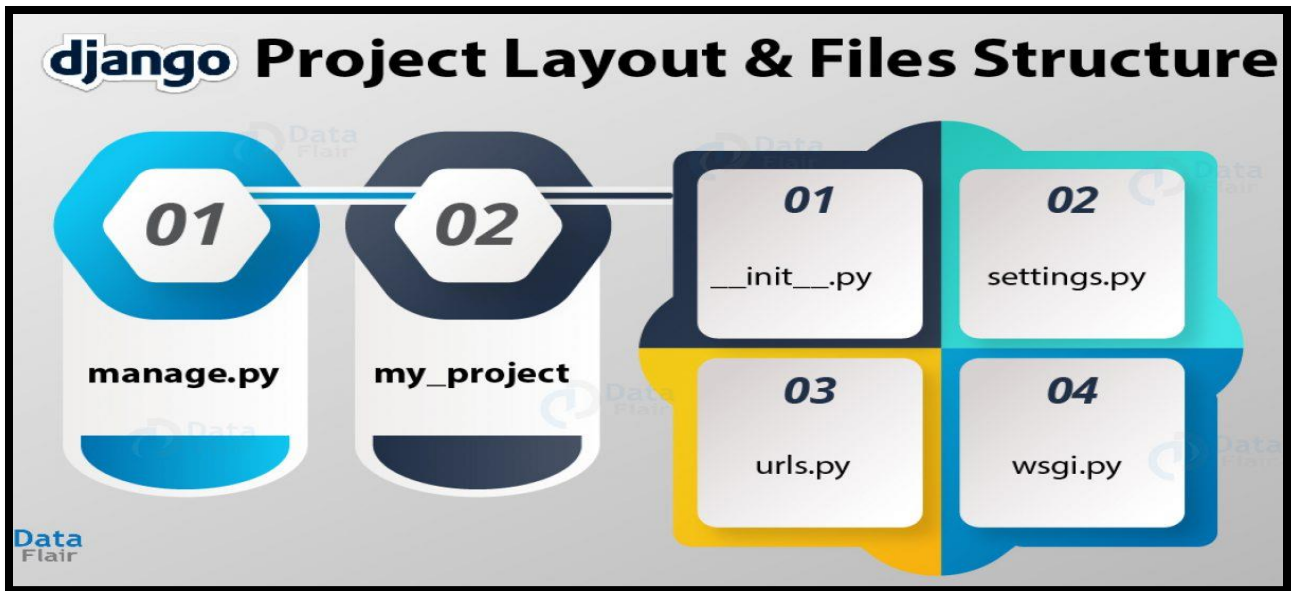
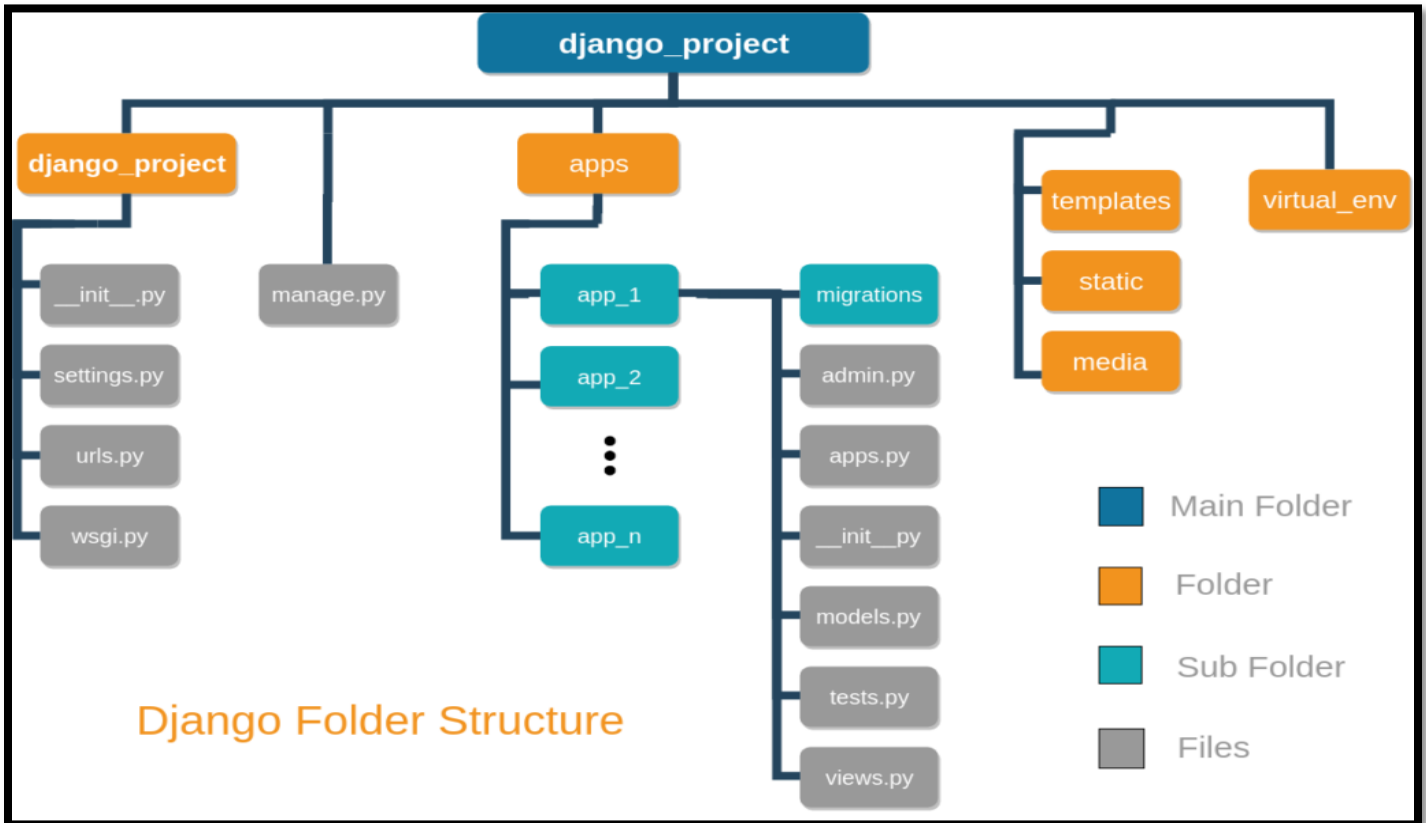


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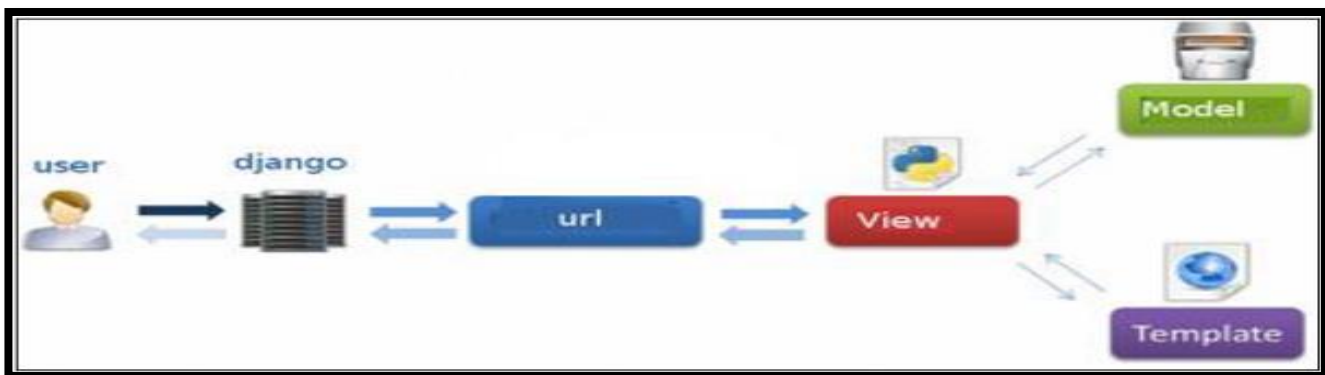
Q-2(D) ANSWER THE FOLLOWING.(ANY ONE)

5

1. What is Django ? Explain MVC framework in Django.

Ans:-

- Django support MVC design pattern.
- MVC stands for Model – View – Controller.
- While talking about the application we have to manage MVC architecture.
- MVC design pattern depends on three components:



1.Model :-

- Model is nothing but representation of your data.
- It is not actual data but provide interface of data.
- Model provide facility to pull the data from your database.
- It provide abstract layer for your database.

2.View :-

- The view is what you see.
- It is presentation layer for your model to display something.
- View is also provide interface to collect user input and display it in the browser.

3.Controller :-

- It is a mechanism that control flow of the informations between model and view.
- It is used to decide programming logic for output purpose.
- It also act as bridge between viewers and informations.



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2. What is Template?How To Load Template?Also Explain Template Tags and Filter.

Ans :-

- It is also possible in django to create basic template.
- You have to create your template folder inside project folder, If it already available then you have to just manage it.
- Using template you can specify your design that you want to view as output.
- Before loading the template you have to specify template directory name in settings.py

TEMPLATE_DIRS = ['template/']

- Right click on your template folder and goto HTML file.
- Give suitable name for HTML file and click ok.
- Writedown your code inside HTML file and save it.

```
<> home.html x
8      {% if message_list %}
9      <table class="message_list">
10         <thead>
11             <tr>
12                 <th>Date</th>
13                 <th>Time</th>
14                 <th>Message</th>
15             </tr>
16         </thead>
17         <tbody>
18             {% for message in message_list %}
19             <tr>
20                 <td>{{ message.log_date | date:'d M Y' }}</td>
21                 <td>{{ message.log_date | date:'H:i:s' }}</td>
22                 <td>
```

❖ How to load template ?:-

- To load your template goto views.py and import the following :

From django.http import HttpResponse

From django.template import loader

- Now you can load your template using following lines in the view.

t = loader.gettemplate('hello.html')

return HttpResponse(t.render())



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1. Template filter :-

- Filter provide facility to modify variables at the time of display.
- The template filter structure look like the following:
`{{ variable name | filters }}`

Example :-

```
{{ string | truncate words : 80 }}  
{{ stromg | lower }}
```

2. Template Tags :-

- Template tag provide mainly following operations :

[1] Tag if :-

- It is used to check the condition and give the output based on if...else ,elif.

- Example :-

```
<html>  
<body>  
{% if today.day == 1 %}  
    The first day of month  
{% elif today.day == 31 %}  
    The last day of month  
{% else %}  
    I don't know  
{% end if %}  
</body>  
</html>
```

[2] Tag for :-

- For tag works like for loop in the python.

- Example :-

```
<html>  
<body>  
<p>  
{ % for day in days_of_week %}  
    {{ day }}
```



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```
{% end for %}  
</p>  
</body>  
</html>
```

[3] Block & Extend Tag :-

- The template system can not complete without template inheritance.
- When you design your template , you should have main template and child template.
 - Example :- main . html

```
<html>  
<title>  
<p>  
{ % block title %  
    Page title  
{% end block %}  
</title>  
</html>
```

hello . html :-

```
{% extends "main.html" %}  
{% block title %  
    Page title  
{% end block %}  
{% block content %  
    Hi friends!!!  
{% end block %}
```

Q-3(A) ANSWER THE FOLLOWING.(ANY ONE)

4

1. __str__

Ans :- It is python method which is called when we use print/str to convert object into a string.

2. render()



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Ans :- Render() combines a given template with a given context dictionary and returns an HttpResponse object with that rendered text.

3. ORM stands for _____

Ans :- Object Relational Mapper

4. In Django how would you retrieve all the records from a model named 'stud'.

Ans :- obj = stud.objects.all()

Q-3(B) ANSWER THE FOLLOWING.(ANY ONE)

2

1. What is Model? Explain how to migrate database in django?

Ans :-

- Model is a class that represent table or collection in our database.
- In model.py file you can create every attributes or field particular table or class.
- Model can be define in the app / model.py.

✓ **How to create model :-**

- Creating model is very easy process in django.
- You can create your desired model like following:
- Each model can be inherit from django.db import models.
- In above example our class name is "student" which have three attributes(2 character fields and 1 integer field).
- The above attributes will become fields of our table.

From django.db import models

Class student(models.Model):

Rno = models.IntegerField()

Nm = models.CharField(max_length=50)

City = models.CharField(max_length=50)

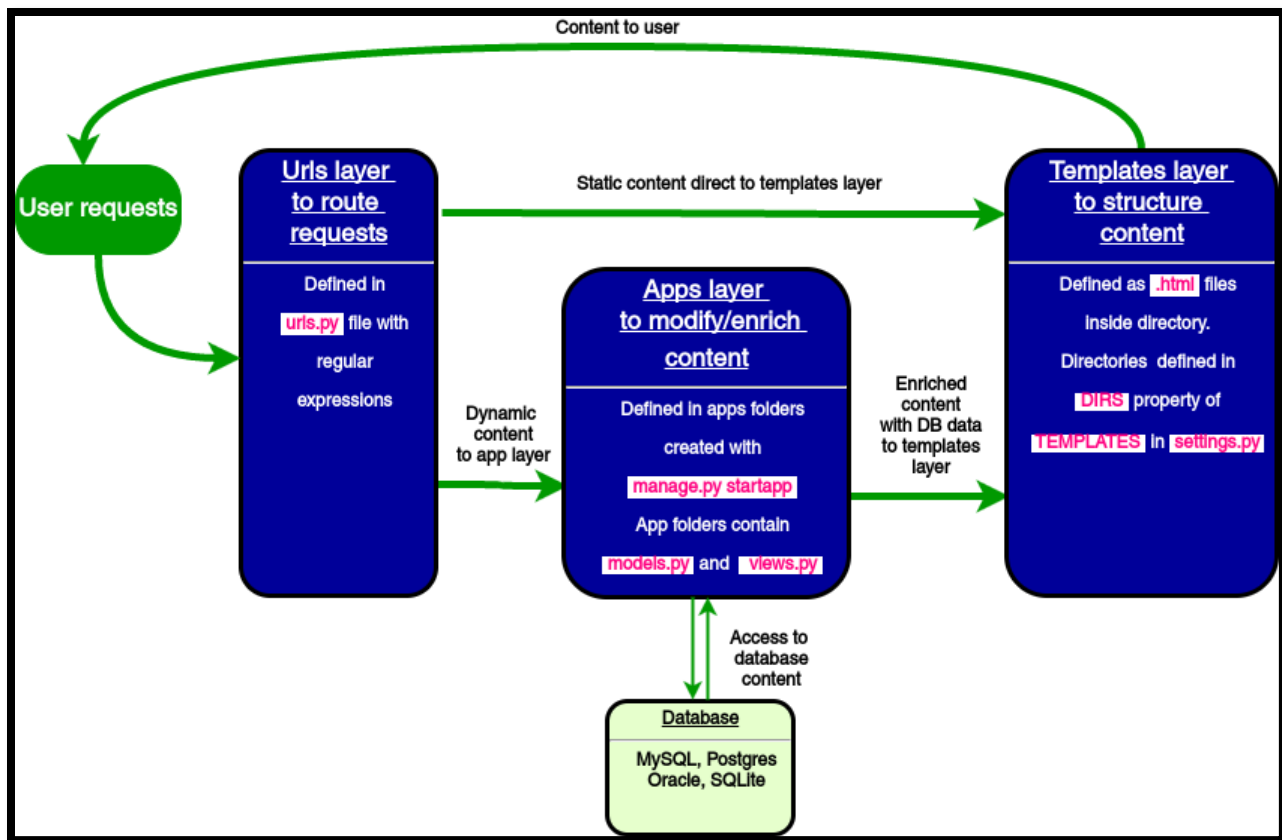


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✓ How to Activate model :-

- After creating model you need to activate it.
- Goto the python prompt and type the following command.
Python manage.py makemigrations app1
- It will automatically create model named student
- Now apply the following command.
Python manage.py sqlmigrates app1 0001
- Above command will create table named `app1_student`
- Now finally type the commandand run the server.
Python manage.py migrate

2. What are the officially supported database in Django?



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Ans :-

- Database is collection of data.
- Database is set in “database” directory.
- Django support some database engine and you can setup any of the as per your requirement.
- There are following databases that you can select to work with django:

1. MySql:-

([http :\\ www.mysql.com](http://www.mysql.com))

2. PostgreSQL :-

([http :\\ www.postgreSQL.com](http://www.postgreSQL.com))

3. SQLite3 :-

([http :\\ www.SQLite.org](http://www.SQLite.org))

4. MongoDB :-

([http :\\ django-Mongoddb – engine.readthedocs.org](http://django-Mongoddb – engine.readthedocs.org))

- Django support different types of databases but before using it you need to configure it.
- You can work with to many databases like ; Oracle , Mysql , Postgray sql , SQLite etc...

Q-3(C) ANSWER THE FOLLOWING.(ANY ONE)

3

1. Explain Order by() and filter()

Ans :-

[1] Order by :-

- By default, results returned by a QuerySet are ordered by the ordering tuple given by the ordering option in the model's Meta. You can override this on a per-QuerySet basis by using the order_by method.
- Example:



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➤ `Entry.objects.filter(pub_date__year=2005).order_by('-pub_date')`

- The result above will be ordered by `pub_date` descending, you can also arrange query set in ascending order without –sign in front of fieldname.

[2] filter :-

- Django-filter provides a simple way to filter down a queryset based on parameters a user provides.
- We have a number of fields and we want to let our users filter based on the name, the price or the `release_date`. We create a `FilterSet` for this:
- You can get single or particular object like following
 - `Student.objects.filter(id=4)`
- To update particular record with given value than you can write like following :
 - `Student.objects.filter(id=4).update(name='abc' , city='surat')`
- `delete()` can be used to delete particular record as well as all records from the database.
 - `Student.objects.filter(id=4).delete()`

2. Explain Ctime() , Localtime() and Mktime().

Ans:-

(1) Ctime():-

- `ctime()` converts the time expressed in seconds since epoch to string representing local time.
- **Example :-** `print "time.ctime():%s" %time.ctime()`
- Here , `c` is used to represent number of seconds to be converted into string representation.

(2) Localtime():-

- `Localtime()` is similar to `gmtime()` but it automatically converts number of seconds to the local time by `time()`
 - i. **Example :-** `print "time.localtime() : %s" % time.localtime()`



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(3) Mktime() :-

- Mktime() is reverse function of local time.
- It's argument is structured time and it returns floating point number.

Example :-

t = (2017 , 2 ,17 , 3 ,38 , 1 ,48)

sec = time.mktime() print "time.mktime(t):%f" %sec

Q-3(D) ANSWER THE FOLLOWING.(ANY ONE)

5

1. Explain Data Updataion and Data Deletion in Django?

Ans :-

- Once you update settings.py file with database , you can test if django application communicate with database or not.
- The django database always perform migration process to create set of tables.
- To run migration on django project , apply the following command.

Python manage.py migrate

- Once you create model , Django automatically provide python API for working with that model.
- First of all , we need to import our model class such like "student".
- Now we can perform different operations like inserting , updating ,deleting and selecting object.

[3] Updating object :-

- Updating record is possible by updating single record as well as by updating multiple records at the same time.

- You can update all records with name = 'hns' like following :

`Student.objects.all().update(name='hns')`

- To update particular record with given value than you can write like following :

- `Student.objects.filter(id=4).update(name='abc' , city='surat')`

[4] Deleting object :-

- To delete object from your database delete() can be used.



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- delete() can be used to delete particular record as well as all records from the database.

- Student.objects.filter(id=4).delete()

OR

- s= student.objects.get(name='hns')

- s.delete()

- You can also remove bulk records using delete() with all() like:

- student.objects.all().delete()

2. Explain How to Configure Database in Detail.

Ans :-

- Database is collection of data.
- Database is set in “database” directory.
- Django support some database engine and you can setup any of the as per your requirement.
- Django support some database engine and you can setup any of the as per your requirement.

```
# Database
# https://docs.djangoproject.com/en/2.1/ref/settings/#databases

DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.sqlite3',
        'NAME': os.path.join(BASE_DIR, 'db.sqlite3'),
    }
}
```

❖ Setting up Database :-

- If you have database server already then goto database administration to create new database for django project.



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- If you are using default database engine for django then it will be always SQLite3.
- To setup default database configuration goto settings.py file at that time you find DATABASES variable as python dictionary.
- **Settings.py :-**

```
DATABASES = {  
    'default' : {  
        'ENGINE' : 'django.db.backends.sqlite3',  
        'NAME' : 'os.path.join(BASE_DIR , 'db.sqlite3'),  
    }  
}
```

Q-4(A) ANSWER THE FOLLOWING.(ANY ONE)

4

1. _____ Command is used to Create Super User.

Ans :- python manage.py createsuperuser

2. What is URLConf?

Ans :- URLConf is like a table of contents for our Django website. Basically it is mapping between URLs and the view function.

3. form.is_valid()

Ans :- The **is_valid()** method is used to perform validation for each field of the form, it is defined in Django Form class.

4. _____ file is used to register model for admin site.

Ans :- admin.py

Q-4(B) ANSWER THE FOLLOWING.(ANY ONE)

2

1. How to request webpage via URL ? Explain with example.

Ans :-

- Django use request and response object to pass the URL.
- When the webpage is requested , django will create HttpRequest object that support the request.
- Django load particular view by passing the request as first argument.



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- A string that support HTTP method will used get or post method.
- URL is nothing but a web address that you see everytime you visit your webpage.
- In django we use URLConf which is a pattern that django try to match with user request.

```
From django.url import path , include
urlpatterns = [
    Path('admin/' , 'admin.sites.urls'),
    Path( ' ' , include('myapp.urls'))
]
```

- When we request our web page we have to write the following URL in the web browser like :- **http : // 127.0.0.8000 / myapp**
- We can redirect our application to web browser using myapp.urls.

2. Differentiate :- GET v/s POST Method of Form.

Ans :-

NO.	GET	POST
1.	GET can be used only for the request that never affect state of the program or system.	POST method can be used to change state of the system.
2.	In GET method , the url contains the address	In POST method , the url does not contains the address.

Q-4(C) ANSWER THE FOLLOWING.(ANY ONE)

3

1. Explain Django.Contrib Package.

Ans :-

- Django include standard library of different packages that you used immediately.
- The standard library of django available in the package.



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➤ Django.contrib having the following packages or collection of libraries:

(1) Admin :-

- Django.contrib support admin package to register you admin interface.

Example :- django.contrib.admin

(2) Auth :-

- It is an authentication framework for django.

Example :- django.contrib.auth

(3) sessions :-

- It is used to support session framework.

Example :- django.contrib.sessions

(4) sites :-

- It is used to provide framework to operate multiple websites.

Example :- django.contrib.sites

(5) contenttypes:-

- It includes contents that track all the models in your project.

Example :- django.contrib.contenttypes

2. Explain How to Render a webpage via view function.

Ans :-

- In django view is a function that based on particular url mapping.
- Each view in your application need to be define in views.py file.
- @render_ to decide which template should be render with the page.
- A template that render using view function must be inside your application.

```
@render_to('index.html')
def home(request):
    return {
        "message" : "hello friends" ,
        "app_name" : "testapp"
    }
```



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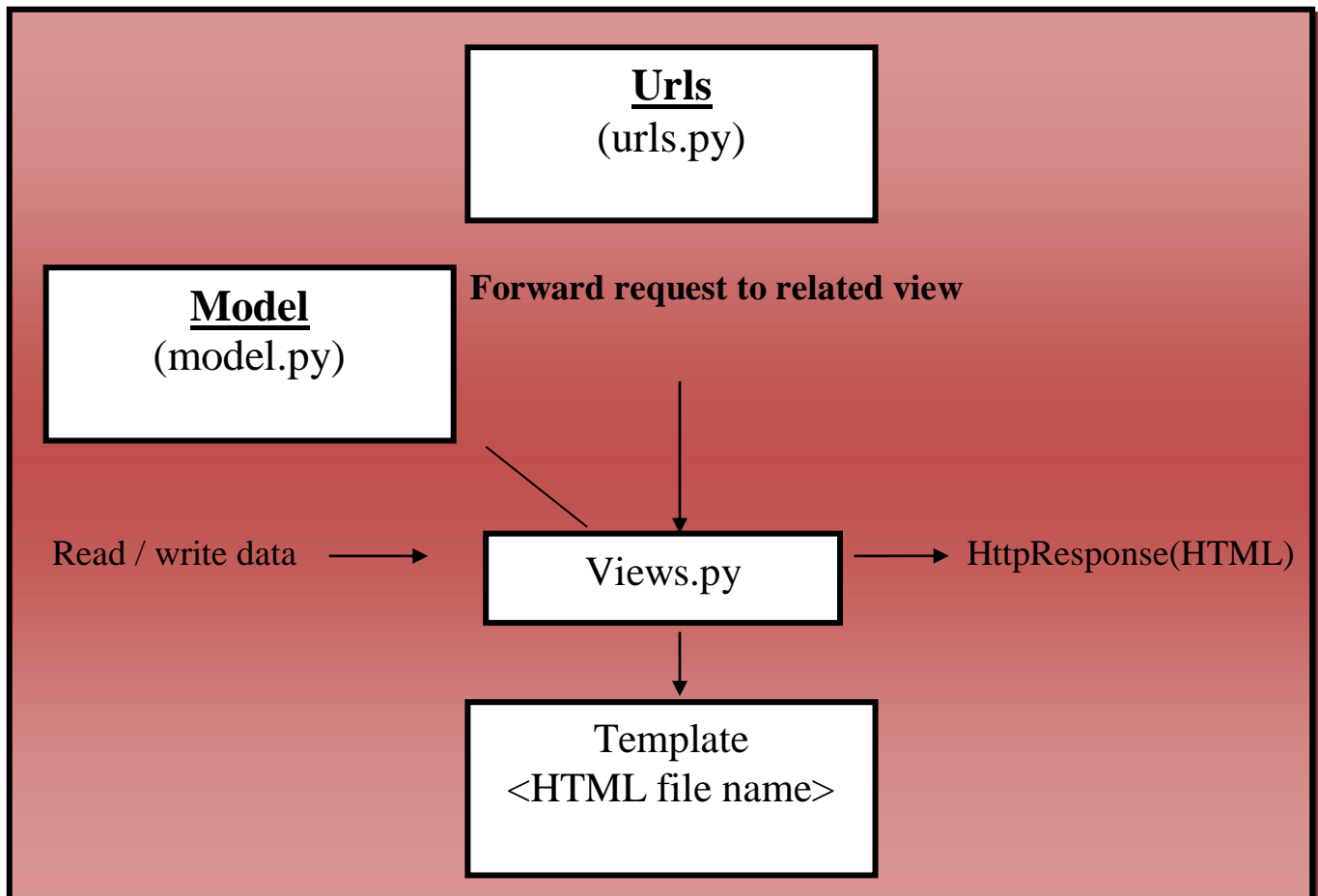
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Views.py

```
From django.shortcuts import render
def abc(request):
    return render(request , 'hello.html' , { } )
```

- We have to provide url for our view function that must be render at browser with application name.
- View function is a function that is used to get a requested data from the model , display data and render our content in the browser





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Q-4(D) ANSWER THE FOLLOWING.(ANY ONE)

5

1. Explain How to activate , customize Django's admin Interface.

Ans :-

- One of the most powerful part of django is automatic admin interface.
- It provide data from your model where trusted user can manage content of website.
- Admin interface provide easy way for user to create , insert , update and delete database content.

✓ How to Activate Admin Interface :-

- By default django admin site is not activated.
- To activate it , you need to perform following three steps.
 1. Include your application in INSTALLED_APPS in settings.py.
 2. Go to the URL of your application where you get the following lines.

From django.contrib import admin

url(r'^admin/' , include(admin.site.urls'))

3. After adding url , run the following command to create database table into admin site for the users.

Python manage.py syncdb

- Now run **python manage.py runserver** to start development server.
- Open the web browser and navigate to **http : // 127.0.0.1 : 8000 / admin**
- You should be able to see login screen of admin site like following :

Django Administration	
User name :	<input type="text"/>
Password :	<input type="password"/>
<input type="button" value="Log in"/>	



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- Now you can login to your admin interface by creating super user.

2. **Explain Model Form and explain different Form Validations in Detail.**

Ans :-

[1] Modelform :-

- Modelform is a class that related with its members.
- If you just need a form you have to make fields of single model.
- You can store your most of the informations as fields.
- It is easy to use the Modelform to create the form with your own model.
- This Modelform can be used with your views.
- Modelform contains metadata that related with particular model.
- You can create fields of the model that included in your form.
- If you want to include all the fields with your form then following statement can be used:
 - **Fields = __all__**
- You can use exclude to specify the fields that not include from the model.
- If you have lots of fields in your Modelform then it can easily reduce amount of the code.

```
From django.forms import ModelForm
```

```
From . models import book
```

```
Class meta:
```

```
Model = book
```

```
Fields = ['price']
```

[2] Form Validations :-

- Form validation can be apply when data is cleaned.
- There are three types of cleaning methods during form process.



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- Validations is nothing but simple function that take single argument and generate the error on invalid input.
- The different methods related to validations of form are as follow :
 - **Validate () :-**
 - it is used on field validation and it have value that force to be corrected value.
 - It does not return anything.
 - **clean () :-**
 - This method can perform any validation that support multiple fields from the given form at once.
 - By default , form.clean() just return self.cleaned_data.
 - **Validation error() :-**
 - One can use validation error to display related error message if error available.
 - **Is valid() :-**
 - The form . is_valid() will return true if all the fields are filled with correct values and not blanked.
 - It is used to check if entered data is valid or not , if data is valid then it returns true otherwise return false.
 - **Cleaned data() :-**
 - This method can be work with field validation and it contains only validated and cleaned data.
 - **Clean <field name>:-**
 - In this method <field name> is replace with name of form field.
 - This method will not pass any parameters or arguments.



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1. The _____ object in Django has session attribute, which create, access and edit the session variable.
Ans :- Request
2. Which attribute of cookie is used to decide expiration time for cookie?
Max_age()
3. Any test within test.py file that starts with _____ will be run by Django's test runner.
Ans :- test_
4. Which method is used to create cookie?
Ans :- set_cookie()

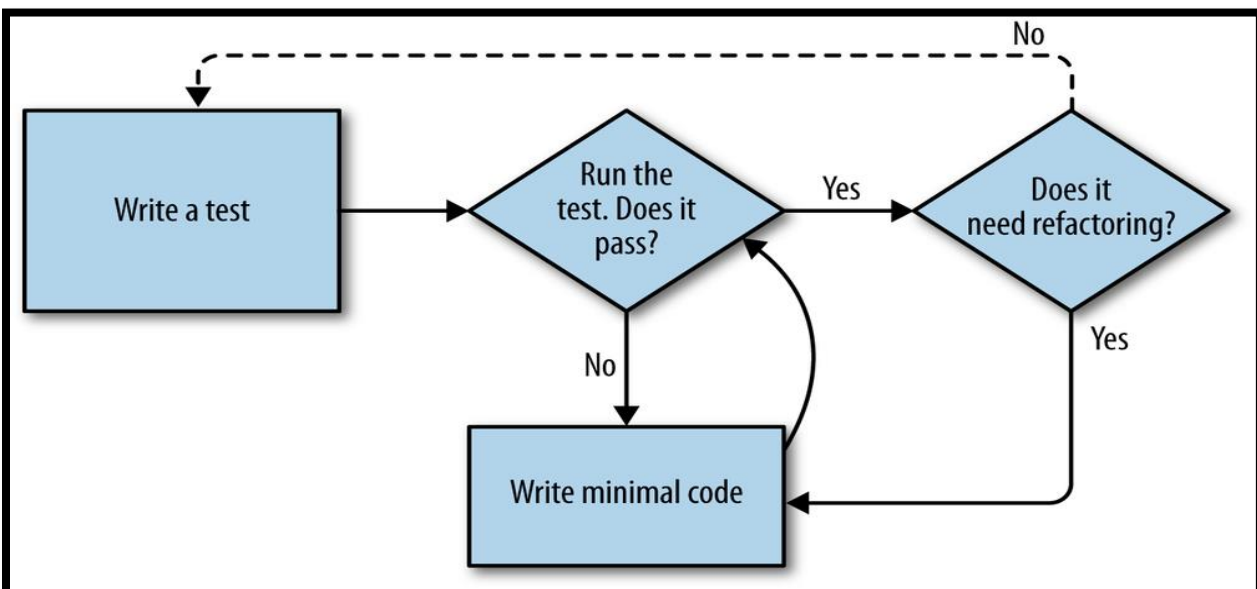
Q-5(B) ANSWER THE FOLLOWING.(ANY ONE)

2

1. Explain Testing in Django.

Ans :-

- Testing is an important part of django project to test our application.



- There are two types of test you need to run :



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1. Unit test :-

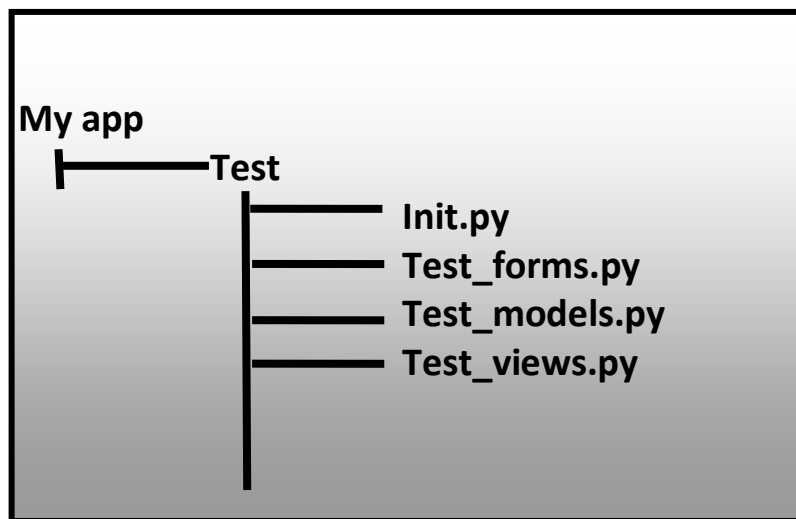
- Unit test is a small , isolated and always focus on specific function.
- Unit test is always fast to run the code and it is easy to read , write and debug then integration testing.

2. Integration test :-

- Integration tests are used for user behavior.
- It combine multiple functionalities at the same time.

✓ Test Layout OR Test Structure:

- By default all new applications in django project comes with test.py file.
- Any test related to this file begins with **test_**.
- The test file can be run by test runner of django.



✓ How to run Test ? [1 mark]

- After creating your test you need to run it.
- It is very easy , just go to the terminal and type the following command:
 - **Python manage.py test myapp**
- Django will printout the result of test , if it is success or fail.
- The test also inform us which test is fail and even the line on which you got failure.



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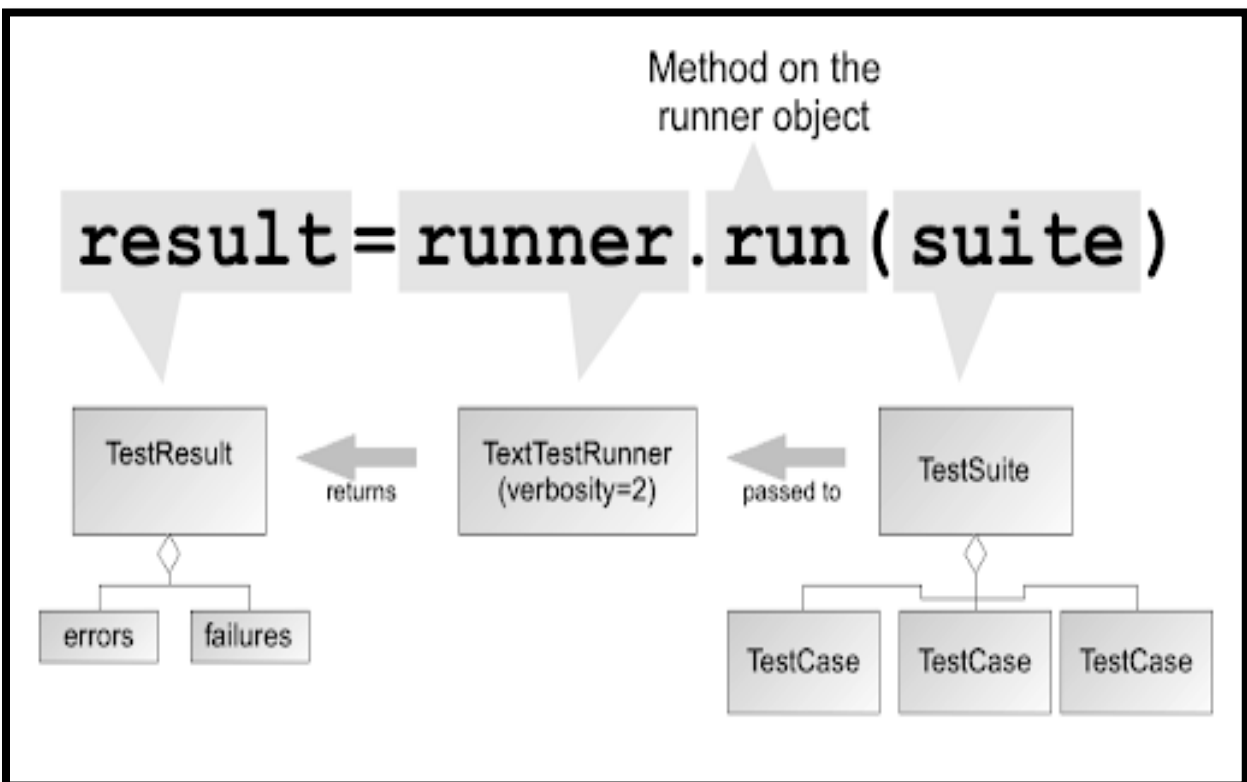
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2. Explain Python's Unit Test2 Library.

Ans :-

- unittest2 is additional feature added in python framework in python 2.7 and onwards.
- To use unittest2 library just import unittest2 for your package.
- You can get latest version of unittest2 from "<http://pypi.python.org/pypi/unittest2>".



✓ unittest2 for python :-

- you can receive the classes from unittest to unittest2.
- Now you can implement new feature for your testcase from unittest2.testcase.
- Following are some features of unittest2 library.

✓ Features :-



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1. **addcleanups** :- it is used for resource management as well as memory management.
 2. **assertRaises** :- it is discovery and command line option for batter handing of errors.
 3. **Class & module level fixture** :- it is responsible for expected failure.
 4. **Loading test** :- it support loading of different test from module or package.
- ✓ **Functions** :-
1. **unittest2.installHandler** :- it is used for handling of installation at different steps.
 2. **unittest2.registerResult()**:- it is used to register testresults at different levels.
 3. **unittest2.removeResult()** :- it is used to remove the registered result, once the result have been removed you do not need to call testResult.Stop().
- If you use unittest2 without any argument then it start test discovery again.
 - The testresult object with success returns true for **result.wasSuccessful()**.

Q-5(C) ANSWER THE FOLLOWING.(ANY ONE)

3

1. **What is Cookie ? Explain How to Get and Set Cookie with example.**

Ans :-

- Sometimes you need to store some data in your web application.
 - Cookie is small piece of data stored in user browser sent by the server.
- ✓ **How Cookie Work:-**
- The browser send request to the server.
 - The server send response with one or more cookies to the browser.
 - The browser save the cookie and receive response from the server.
 - When cookie expire it remove from the browser.
- ✓ **Creating or Setting Cookie:-**
- We can create cookie using set_cookie() of request object.



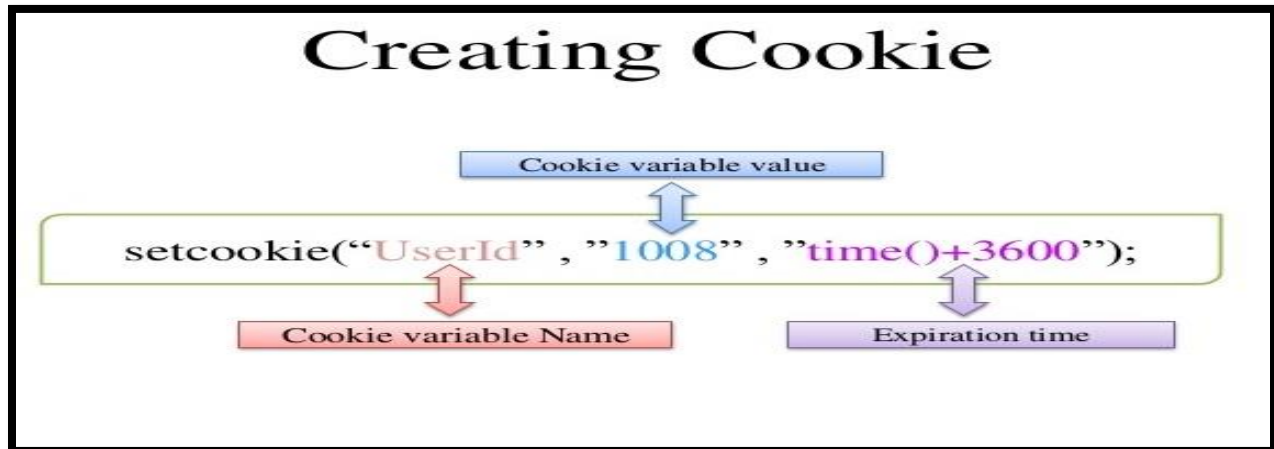
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Creating Cookie



yntax :- set_cookie(name , value , max_age = None)

- **Name :-** It is used to set name of the cookie.
- **Value :-** It is the value that store in the cookie.
- **Max age:-** It is age of cookie in seconds , after that time it will expire.
- **NOTE :-** max_age is optional argument , if not given then cookie will expire when browser is closed.

✓ **Reading or getting Cookie:-**

- Every request object in django have COOKIE attribute which work as dictionary.
- We can access or get any cookie value like following.
- **Syntax :-** request , COOKIE ['cookie_name']
- When you read cookie , it always return as **string**

Example :-

```
def test_cookie(request):
    if not request.COOKIE.get('color') :
        response : HttpResponseRedirect("cookie set")
        response , set_cookie('color' , 'pink')
        return response
    else :
        return HttpResponseRedirect('your favourite color is { 0
} '.format(request.COOKIE ['color']))
```



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2. Explain Session in the View and Session Outside the View.

Ans :-

[1] Session in the View:-

- When you want to create session in the view , first check that SessionMiddleWare must be activated.
- Each HttpRequest must have session attribute .
- Session attribute can be dictionary like object.
- You can read and write session data using normally dictionary.
- To use session in the view , we can write code following :

```
def login(request) :
```

```
    if request.method != 'POST':
```

```
        raise Http404 ('not allowed')
```

```
    try :
```

```
        m = member objects get(username = request.POST['username'])
```

```
    if m.password == request.POST ['password'] :
```

```
        request.session ['member_id '] = m.id
```

```
        return HttpResponseRedirect ('you are logged in')
```

```
    except member.DoesNotExist :
```

```
        return HttpResponseRedirect ('not matched ')
```

[2] Session in the View:-

- Each session is just django model defined by django.contrib.session.model.
- Session is identified by 32 characters (Hash key data) that generally stored in database and cookie.
- You can access session data using django database API.
- In django session encoded data can be store in the database.
- But sometimes it can not be easy.
- If you want to decode the encoded data then go for...
django.contrib.sessions.backends.base.sessionbase.decodeddata
- **S = session objects.get(p1 = '2b118998844ad18035c113c6ceead12')**
- You need to activate get_decoded() value out of session data.

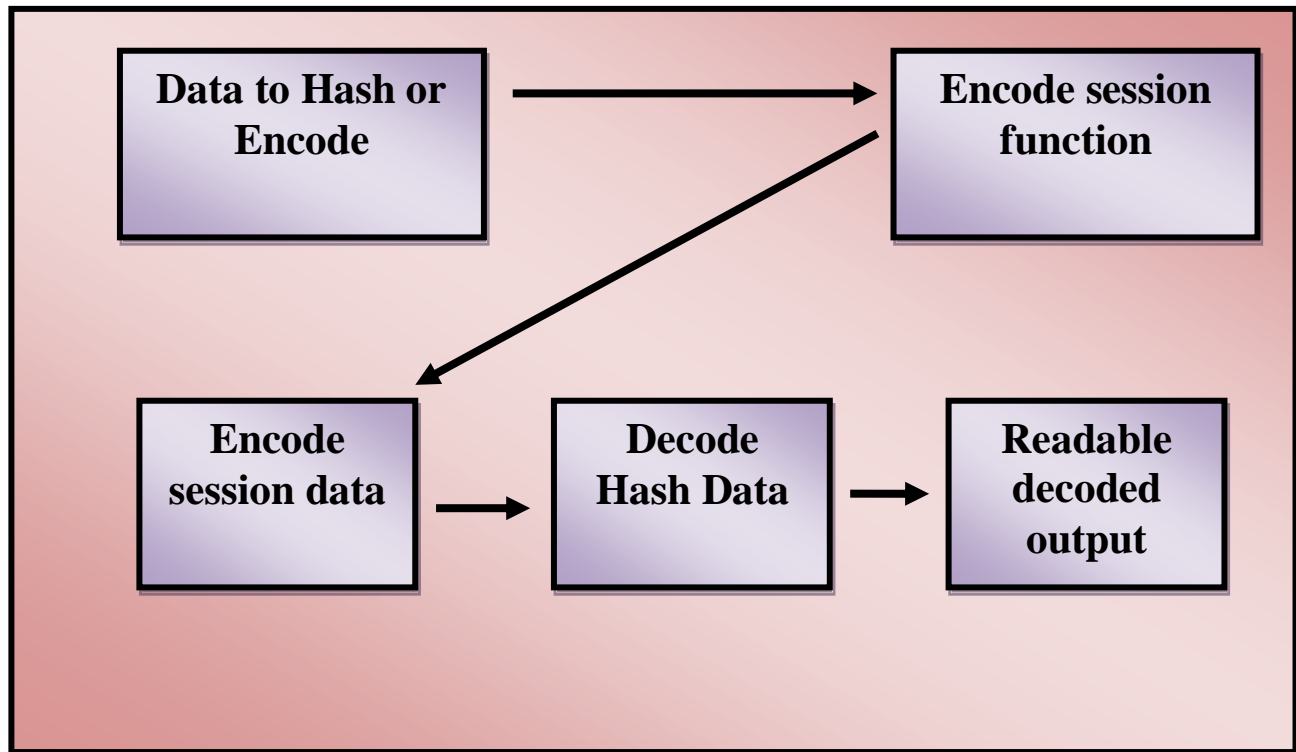


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Q-5(D) ANSWER THE FOLLOWING.(ANY ONE)

5

1. **What is Session? Explain Django's session framework.**

Ans :-

- Django provide full support for storing session.
- Session framework store data on visitor base on serverside.
- Cookie can contains session ID not the data itself.
- By default django save session informations in database like session table or collection.

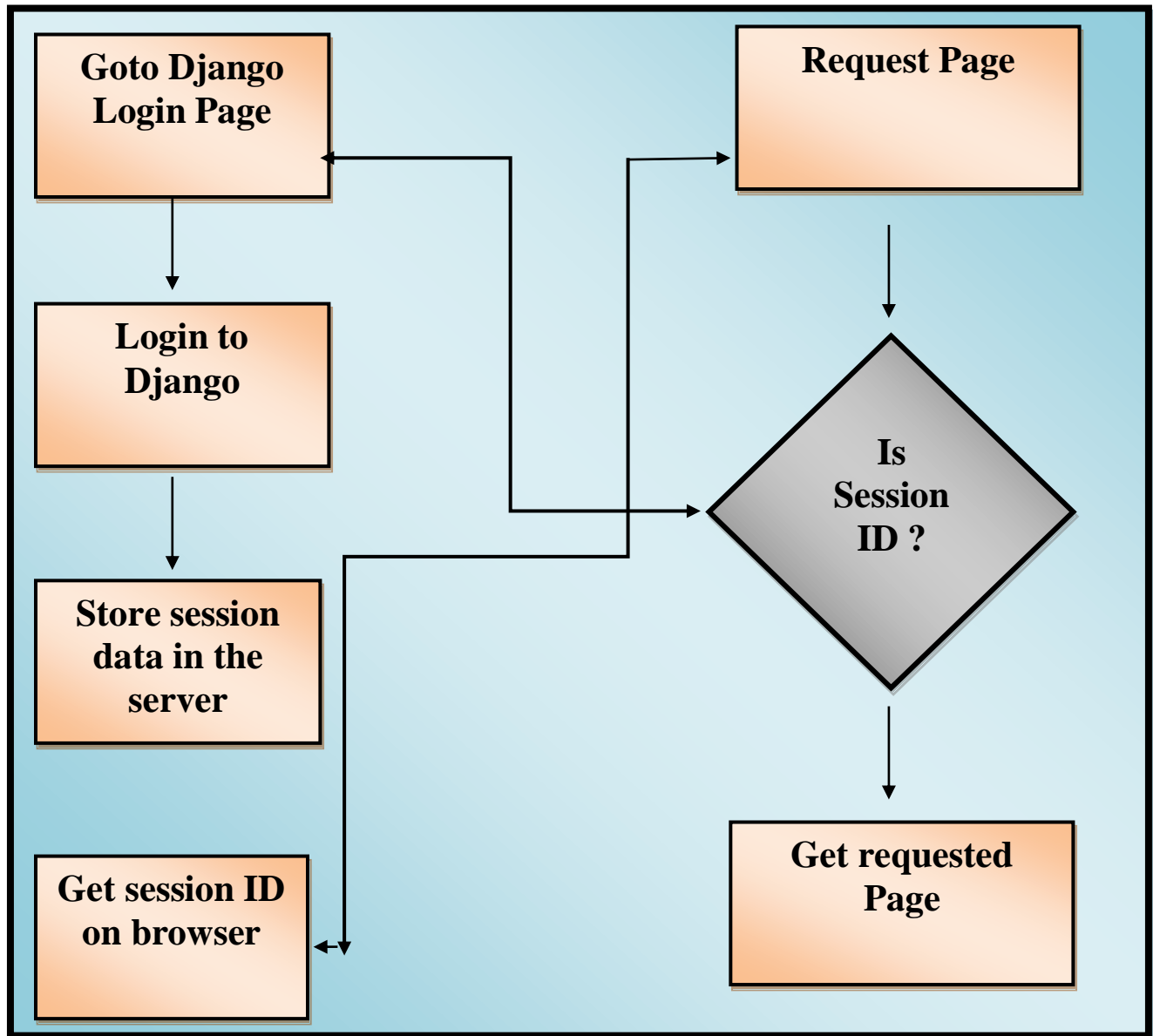


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✓ How to enable Session:

- In django , session can be enable using settings.py file.
- You have to add following lines MIDDLE_WARE class.
 - **Django.contrib.sessions.Middleware.SessionMiddleWare**
- INSTALLED_APP have following lines to enable the session.



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- **'django.contrib.sessions'**
 - When session is enabled , every request have session attributes.
 - ❖ **Set expiry(value) :-** set_expiry attribute of session can be used to set expiration time for the session.
 - Session can be of file based and cookie based.
- Django support generally two types of session:
 1. **File based session :-**
 - you have to set **SESSION_FILE_PATH** where django store session files.
 - To use file based session , set the following lines in settings.py file:
 - **SESSION_ENGINE = "django.contrib.sessions.backends.signed_file"**
 2. **cookie based session :-**
 - To use cookie based session , set SESSION_ENGINE to
 - **SESSION_ENGINE = "django.contrib.sessions.backends.signed_cookie"**

2.Explain How to Deploy Django Application on GitHub / Amazon Webservice.

Ans :-

- Deploying is a process of publishing your web application on web server.
- So the people can finally go and visit your application.
- We can use external service like GitHub which is code hosting service.

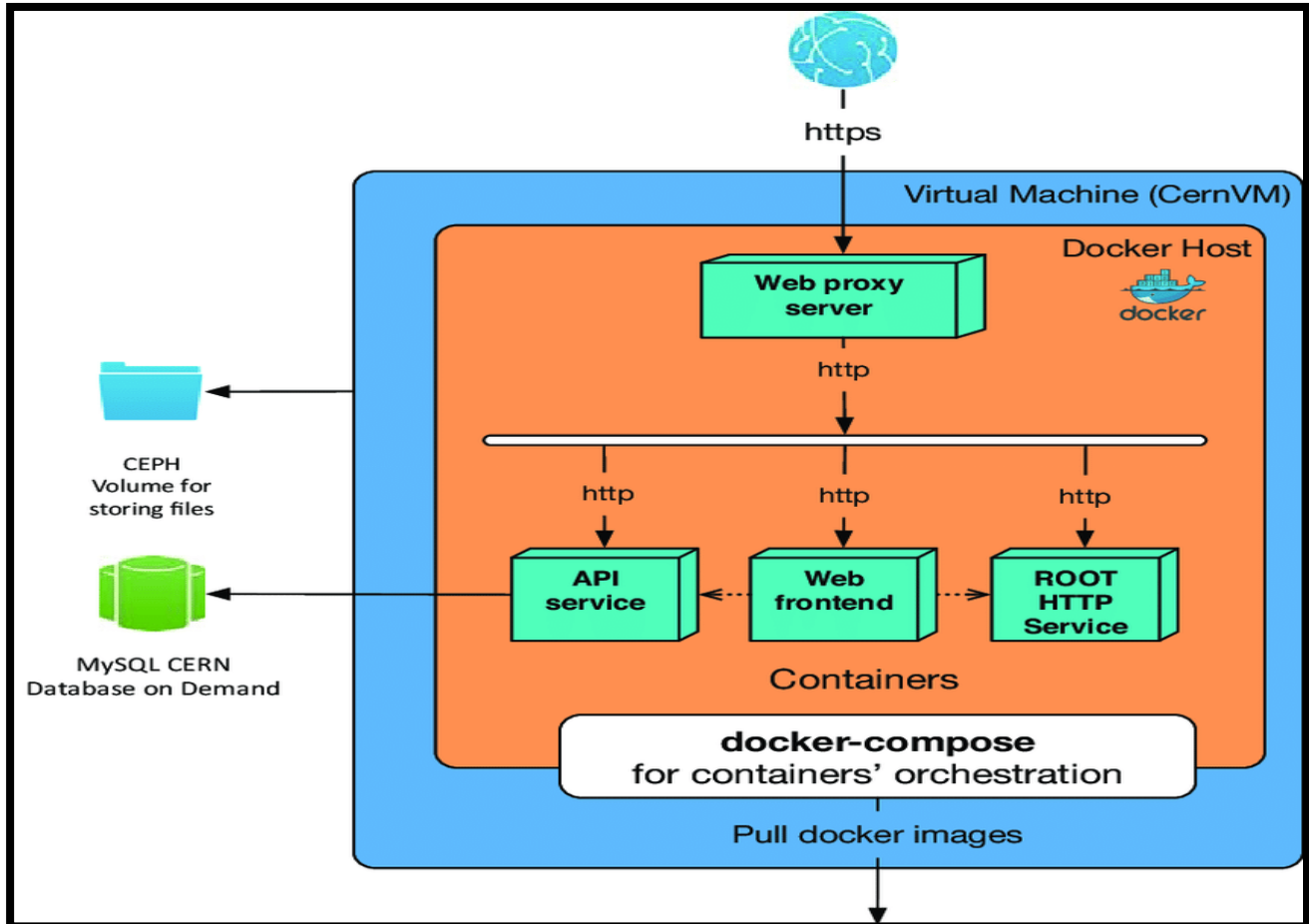


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➤ There are following steps available to deploy you application on GitHub.

✓ STEPS :-

1. First of all download Git from git-scm.com.
2. Setup your account on github.com.
3. Create repository and then synchronize to access it locally.
4. Login to your GitHub account and click “+” link in your toolbar and select new repository.
5. Fill all the fields on your form and also give new repository name like (local library).
6. Select python from selection list.
7. Select your preferred license by adding a license in selection list.



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8. Check new repository with README option.
9. now click on repository button.
10. You have to click **“clone or download”** button on your repository page.
11. Copy the URL value from the text field which can be address of local library.
12. Now repository is created , now store it to your local computer.
13. Goto the terminal and clone your repository using following line :

> git clone https : // github.com/your-git_user-id>/local-library.git.
14. Finally go back to the page on GitHub and refresh the page , you can see your whole application now uploaded.