create project -> django-admin startproject project_Name
Run -> python manage.py runserver
for Migration -> python manage.py makemigrations
              -> python manage.py migrate
for admin login first create super user -> python manage.py createsuperuser
for forget admin password python manage.py changepassword 535shivam
To add another app inside another app then -> python manage.py startapp
new_appName

                              views.py   import file

from django.http import httpResponse , redirect
from django.http import render
from .views import *

1. After creating project first make views.py file in myApp.

2. In settings.py , to give the path to template ->
os.path.join(BASE_DIR,'templates') and for static file ->
       STATICFILES_DIRS = [
           BASE_DIR,'static' # where static is folder name in myapp folder
       ]
       DEBUG =TRUE

3. To access css/js from static folder in html   -> In HTML Page   - first
declare on top {% load static %} then <link rel="stylesheet" href="{% static
'css/cssName.css' %}">

4. In Urls.py - to give the path -> path('home/',homePage) where 'home/' -> to
give the path home page like(http://127.0.0.1:8000/home/) and homePage -> its
a function name which are used in views.py

5. In views.py - to define function which are called by urls.py like -
     def homePage(request):   where homePage -> called by urls.py where we
give the path of home Page
          return render(request,'home.html') where -> 'home.html' - HTML Page
Name

6. render -> to get the data from html page to the page.
   httpResponse -> to show the data on the page.

7. IF your js is not connection then use it -><script src="{% static
'js/home.js' %}?v=1"></script>

8. In html if you want to use any loop like for ,if then -> {% for i in number
%} rember one thing alway to close the loop {% endfor %} or {% endif %}
   - Remember if you are using then in html there are no else but if you want to
show else part then you can use {% empty %}

9. include -> If there are some common data which are used in everywhere then we
create a seprate html page and call it anywhere

10. Header and Footer ->   {% include 'header.html' %} and {% include
'Footer.html' %}
    iska use tb krte h jb mere pass kuchh ase data jo sbhi page pr dikhane ho.
tb iske liye alg alg page bnate h
                   {% include 'header.html' %} and {% include 'Footer.html' %}
    fir isko ase hi call krte h hr page pr

11. extends -> -isme header.html or footer.html k page ko ek new html Page

(base.html) m add krte h. or fir iska use krke use access krte header
                    -base.html ->   {% include 'header.html' %}
                                      {% block content %}
                                      ------------data ------------
                                      {% end block %}
                                      {% include 'Footer.html' %}
              -Remember -> yha pr content likha h usko us pr use krna jha aap
header and footer chahte header
                    -home.html ->   {% extends 'base.html' %}
                                      {% block content %}
                                      ------data---------
                                      {% end block %}

12. Django URL tag -> kisi page pr jane k do tarike hote h-
                * First - Home
                * Second - jha pr hm path dete h us def ka vha pr -
                            path('about/',aboutPage,name= sendData)
                            yha jo send data h apne html page jha pr bhejna h us
page pr
                            <a href={% url 'sendData' %}>

13.using FORM Method in python

        (i) http Response Method ->
                        -iska use data ko bhejna or lane k liye kiya jata h
                        (A) GET ->
                                Remember isme jo bhi data bhejenge v sbhi url m
show hoga or isme sirf 1024 char tk data bhej skte h
                                        https://www.google.com/index.php?
name1=value1
                                isliye isme kbhi username or password nhi
bhejte. isko use krne k liye form ka use krna hota h or fir vha s ise def k
andar call krte header
                                        <form method="GET"></form>
                                Remember IMP - jb aap form ka use kre to uske
just niche {% csrf_token %} jarur likhe nhi to error ayega
                                Some steps -
                                i- sbse phle forms.py ka ek file bnaiye usi app
k andar
                                ii- iske andar forms ko import kro
                                        from django import forms
                                iii- jispage pr kam kr h uske html page pr -
                                        <form method="GET">
                                        <label for="">Number 1</label>
                                        <input type="text" name="numberOne"
placeholder="Enter any number....." class="form-control">
                                        <input type="submit" value="Add">
                                        #   ab form pr data lane k liye
                                         <input type="text" value="{{output}}">
yha vlaue m v data aayega jo dict m pass ho
                                        </form>
                                iv - ab iske views.py m jha pr iska function
call ho vha pr -
                                        if request.method == 'GET':
                                        num1 =
int(request.GET.get('numberOne'))   # isse form ka data uthate h
                                        num2 =
int(request.GET.get('numberTwo'))
                                        print(num1+num2)
                                        # website pr data show krne k liye
                                        output = num1 + num2
                                        return render(request,'practical.html',
{'output':output})

```
                            (B) POST ->
                                    isme jitna mn kre utna data bhej skte h fully
secure hota h
                                    i- sbse phle forms.py ka ek file bnaiye usi app
k andar
                                    ii- iske andar forms ko import kro
                                         from django import forms
                                    iii- jispage pr kam kr h uske html page pr -
                                           <form method="POST">
                                           <label for="">Number 1</label>
                                           <input type="text" name="numberOne"
placeholder="Enter any number....." class="form-control">
                                           <input type="submit" value="Add">
                                           #   ab form pr data lane k liye
                                           <input type="text" value="{{output}}">
yha vlaue m v data aayega jo dict m pass ho
                                           </form>
                                    iv - ab iske views.py m jha pr iska function
call ho vha pr -

                                        if request.method == 'POST':
                                        num1 =
int(request.POST.get('numberOne'))    # isse form ka data uthate h
                                        num2 =
int(request.POST.get('numberTwo'))

                                        print(num1+num2)
                                        #website pr data show krne k liye
                                        output = num1 + num2
                                        return render(request,'practical.html',
{'output':output})


        (ii) form k andar data get likhne k 2 trike h ->
              for GET ->
                      (a)  num1 = request.GET['number1']
                      (b)  num1 = request.GET.get('number1')
                       ase hi post k liye bhi
              for POST ->
                      (a)  num1 = request.POST['number1']
                      (b)  num1 = request.POST.get('number1')

        (iii) Action ->
                      iska use krke hm kisi or url target krke hit kr skte h
or us data bhi bhej skte h
                      iske html m sirf itna add krna baki redirection jasa hi
hota h
                            <form action="{% url 'submitForm' %}"
method="GET">

        (iv) Redirection and redirect ->
                      jase kisi chij o login krne k bad  jis page pr jta h v
isi k use s hota h
              step 1 - first import a method
                      from django.http import httpResponseRedirect
              step 2 - us function k andar
                            sum = num1 + num2
                            url = "home/?output={}".format(sum)
                            return HttpResponseRedirect(url)  #using
HttpResponseRedirect
                            return redirect(url)    # using redirect
              step 3 - jis page pr bhejna h uske function make
                            if request.method=='GET':
```

```
                                    output=request.GET.get('output')
                            return render(request,'home.html',
{'output':output})
                step 4 - jis page s bhejna h
                                <form method="GET">    # yha submitForm - bilkul
same hona url.py k path
                step 5 - jis pr aana h uske url path m
                                path('home/',homePage,name='submitForm')


14. Django Forms
        (A)     step 1 - first create forms.py in same app folder
                step 2 -import the file
                                from django import forms
                step 3 - iske a class create krenge Remember ont thing that jo
class name denge usko view.py m import krenge
                                class UserForm(forms.FORM)
                step 4 - jo var name create krenge use views.py k iske function
k anadar as an input use krenge
                            numuberOne = forms.CharField(label='First Number',
widget=forms.TextInput(attrs={'class':'form-control'}))
                                    isme attrs m btana pdega ki apka box kasa
dikhna chahiye
                step 5 - views.py m us UserForm ko imort krna h
                                from .forms import UserForm
                        ab jis page pr dikhana h uske function k andar userform
ko ek var m store krenge
                                fn = UserForm    -> UserForm ko var m store kr
liya
                                data = {'form': fn}  ->or hmne jo blank dict
bhej rhe the usme isko bhej diya
                                data = {     -> is dict m use pass krenge
                                    'output':sum,
                                    'form': fn
                                }
                step 6 - html m sirf itna jodena h
                        <form  method="POST">
                                {{form}}  -> isme vhi name denge jo dict k key m
diya ho
                        </form>

        (B)  validation -> iska use tb hm krte h jase page k load hote agr hmne
apna kisi button pr click krte h to error show krega isko solve krne k liye
                        step 1 - uske html page m jha pr button ho vha pr if
condition chalayenge
                                {% if error %}
                                        your code including button
                                {% endif %}
                        step 2 - iske function m
                                 if request.method.get('num1') == ''
                                    return render(request,'home.html',{'error':
TRUE})

        (C)     jb hm ek hi page pr ek adhik form ka use krte h tb jis button s
phla vala form chal rha h uske function k andar
                        step 1 - if 'primeName' in request.'POST':
                                        your code
                        step 2 - uske html k us button k form pr
                                        <button type='submit' name='primeName'>


15.Models ->
        (i) create a model
                ye apke db k structure ko define krte h or uske behaviour ko
```

btata h

                    step 1. sbse phle apne app k andar ek or app create krenge
                                python manage.py startapp modelApp
                    step 2 models.py k andar class define krenge jo field name
denge v db m bhi vhi bnega
                            class Student(models.Model):
                                name = models.CharField(max_length=200)
                    step 3 -setting.py k anadar INSTALLED_APP k us aap ka nam pass
krna h
                            fir iske bad migration k dono command run krna h jisse
ye db m field create ho jayenge
                    step 4 -admin m login(username or password bnane k liye
python manage.py createsuperuser) krne k bad admin m us field ko dekhne k liye
isi app k andar admin.py m usko define krenge
                            -vha pr uske app ka nam or model k class lo import
krenge
                                from modelApp.models import Student
                            -isme ek class nmayege or jo field admin k page pr
dikhana chahte h
                                class AdminPage(admin.ModelAdmin):
                                    list_display = ('name','age')
                                admin.site.register(Student,AdminPage)
                step 5 - admin page jakr aap direct data Enter kr skte h

        (ii) model s data ko apne page pr dikhane k liye
                    step 1 - sbse phle views.py m apne model ko import krenge
                                from modelApp.models import Student
                    step 2- fir iske function k andar ek var ko create krenge
                                getAllData = Student.objects.all() # all() -
isse sara data aayega
                                data = {
                                    'getAllData':getAllData
                                }
                                return render(request,'modelPage.html',data)
                    step 3 - iske page k andar loop chalana h
                                <table>
                                    <thead>
                                      <tr>
                                        <th>S No.</th>
                                        <th>Name</th>
                                        <th>Age</th>
                                        <th>Mobile</th>
                                      </tr>
                                    </thead>
                                    <tbody>
                                      {% for n in getAllData %}
                                      <tr>
                                        <td>{{n.id}}</td>
                                        <td>{{n.name}}</td>
                                        <td>{{n.age}}</td>
                                        <td>{{n.mobile}}</td>
                                      </tr>
                                      {% endfor %}
                                    </tbody>
                                </table>

        (iii)   agr aap data ko asc ya desc m dikhana chahte h to base function
k andar jha pr aap data ko var get kr rhe h
                        getAllData = Student.objects.order_by('name')   # for
asc order
                        getAllData = Student.objects.order_by('-name')   # for
desc order
                                baki sara code same rhega

(iv)   hm chahte h ki page pr sirf 2 hi data dikhe uske liye list slicing ka use krenge
```
getAllData = Student.objects.all()[:2]
```
isme negative indexing nhi krte like [2:-4]

(v)   template filtering
m chahta ki db s description m data aa rhi h us description m kuchh word ko highlight , underline ya fir kuchh or
```
{{n.description | safe}}  # description
```
a andar agr koi bhi bold itelic ya fir kuchh lga hoga to aapke data ko change kr dega

(vi)   tinymce -(A)   creating on admin page
-ye ek text editor h jisme rich fomatting h like bold italic underline size etc.
-jyada use iska news jase content ko likhne m kiya jata h
-ek trh ka msword
step 1 - install tinymce
usse phle us app k andar another app bnayenge startapp ki use s
```
pip install django-tinymce
```
step 2 - settings.py m INSTALLED_APP k andar isko likho
```
'tinymce'
```
step 3 - models.py m iske import krna h or class and uske field bnane h
```
from tinymce.models import HTMLField

class NewsModel(models.Model):
    newsTitle = models.CharField(max_length=100)
    newsContent = models.HTMLField()
```
step 4 - iske admin.py m us class or app ko call krna h
```
from newsAPP.models import NewsModel

class newsAdmin(admin.ModelAdmin):
    list_display = ('newsTitle','newsContent')

admin.site.register(NewsModel,newsAdmin)
```
step 5 - run makemigrations and migrate

(B)   Display on page
step 1 - iske liye aapko marquee tag ka use krna pdega us html m
```
<marquee behavior="" direction="">
    {% for news in newsOutputData %}
    <a> {{news.newsTitle}}</a>
    {% endfor %}
</marquee>
```
step 2 - ab views.py m us model or class ko import krenge
```
from newsAPP.models imort NewsModel
```
- ab jis page pr dihana h uske function m a new var m us class o store krenge
```
newsOutputData = newsAPP.objects.all()
```
- ab ise dict m bhej
```
'newsOutputData':newsOutputData
```

(C)   Display news detail content using dynamic URL
step 1 - us marquee k andar ek javascript ka function use hota h

```
<marquee behavior="" direction="" onmouseover="stop()" onmouseout="start()">   # stop - isse mouse ko us pr le jate ruk jayega  and start schal jayega
    {% for news in newsOutputData %}
        <a href="/newsDetail/{{news.id}}"> {{news.newsTitle}}</a>     # iske andar jispage pr data jayega uski url denge or ek new var id denge qki db m ek id bhi banegi auto
    {% endfor %}
```

step 2 - ab ek new html page bnayenge jis pr v data aayega

```
</marquee>
<div class="container">
    <h1>{{getDetailData.newsTitle}}</h1>
    <div>
        {{getDetailData.newsContent | safe}}
    </div>
</div>
```

step 3 - ab views.py m ek function bnayenge

```
def newsDetail(request,news_id):
    getDetailData = NewsModel.objects.get(id=news_id)   # yha pr id jo h db id ka name h or news_id dynamic route m pass ki parameter h isme get ka use isliye kiye h qki hme single data bhejna h
    data = {
        'getDetailData':getDetailData
    }
    return render(request,'newsDetail.html',data)
```

step 4 - isme hm us page ka path denge jis pr data bhejna dynamic routing ka use krke
- Dynamic Rout -> isme hm apne url k sath ek id bhi bhejte h

```
path('newsDetail/<news_id>',newsDetail)
```

(D) AutoSlugField -> isme search engine k url m data like www.google.com/?php.where-is-my-train
step 1 - install a package

```
pip install django-autoslug
```

step 2 - fir us app k model.py m isko import krenge or a new var bnayenge

```
from autoslug import AutoSlugField
news_slug = AutoSlugField(populate_from='newsTitle',unique=True,null=True,default=None)
```

iske bad makemigration run kre
step 3 - jis page pr usko click krenge

```
<a href="/newsDetail/{{news.news_slug}}"> {{news.newsTitle}}</a>     # news_slug jo hmne models a andar use kiya h ye v h
```

step 4 - iske path m

```
path('newsDetail/<slug>',newsDetail),
```

step 5 - iske function m change kr do

```
def newsDetail(request,slug):
```

```
                                                        getDetailData =
NewsModel.objects.get(new_slug=slug)
                                                        data = {

'getDetailData':getDetailData

                                                        }
                                                        return
render(request,'newsDetail.html',data)

        (vii)   django filtering
                                -ek trh ka searching h mysql m jase like
operator work krta h usi trh ye bhi krta h1
                                step 1 - jis page pr is filter ko use krna h vha

                                        <form method="POST">
                                          {% csrf_token %}
                                          <input type="search"
name="filerData" value="">
                                          <input type="submit"
value="Search">
                                        </form>
                                step 2 - views.py m jis pr lgana h uske function
m
                                        if request.method =='GET':
                                        searchData =
request.GET.get('filterData')
                                        if searchData:
                                          getAllData =
Student.objects.filter(name__icontains=searchData)  #name__icontains s kisi bhi
letter ko lekr search kr skte h

        (viii)  Pagination  -> jb hm kisi page pr limited data dikhana chahte ho
                                step 1 - views.py m import krna  h
                                        from django.core.paginator import
Pagination
                                step 2 - iske function k andar
                                        getAllData = Student.objects.all()
                                        paginator_new = Paginator(getAllData,2)
# yh sirf 2 data hi show krega
                                        page_number = request.POST.get('page')
                                        new_var =
paginator_new.get_page(page_number)
                                        data = {
                                                'getAllData':new_var
                                        }
                                step 3 - ab html page m
                                        incomplete

        (ix) File upload in admin side
                        step 1 - settings m media ko add kro or isse phle ek
folder bnao apne aap make
                                        MEDIA_ROOT = BASE_DIR/'media'
                        step 2 - urls.py m iske file ko import kro
                                        from django.conf.urls import settings
                                        from django.conf.urls.static imort
static       # yh ek confimation h ki aap media use kr skte ho
                                - isi path m sabse niche
                                        if settings.DEBUG:

urlpatterns+static(settings.MEDIA_URL,document_root=settings.MEDIA_ROOT)
                        step 3 - iske models m
                                new_img = models.FileField(upload_to =
'newsAPP/' , max_length=200,null=True,default=none)
                                        iske bad migration
```

```
                         step 4 - iske html page m
                                  <img src ='/media/{{detail.new_img}}>  # yha
detail dict value h



16.     (A) Sendig mail using smtp method in django
               step -1 create a new email id
                              - username = abc@gmail.com
                              - password = Abc@123
               step 2 - open email django documentation
               step 3 - settings.py m vha pr declare krna h
                              EMAIL_HOST = 'smtp@gmail.com'
                              EMAIL_PORT = 587    # jb hm local s mail krte h
to ye uska no h   465 - server s mail
                              EMAIL_HOST_USER = 'abc@gmail.com'
                              EMAIL_HOST_PASSWORD = 'Abc@123'
                              EMAIL_USE_TLS = TRUE   # for authentication k
liye
               step 4 - views m isko import krna h1
                       from django.core.mail import send_mail
                              fir iske function m
                                      -this is synatx
                                          send_mail(
                                              "Subject here",
                                              "Here is the message.",
                                              "from@example.com",
                                              ["to@example.com"],
                                              fail_silently=False,
                                          )
                                      - example jo use krna h
                                          send_mail(
                                              "About python",
                                              "Python is a case senstive
language.",
                                              "abc@gmail.com",  # send
mail
                                              ["shivam@gmail.com"],  #
receiver mail
                                              fail_silently=False,
                                          )
               step 5 - if got any error regarding send mailid then
                              * ase mail ka use krna jisme 2 step verification
enable ho
                              * fir account m jakr app password ko search krna
                              * vha pr APP MAIL m 'Mail' dalna
                              * iske bad v tmko 16 char k kuchh code dega
                              * settings m jakr
                                      EMAIL_HOST = 'smtp@gmail.com'
                                      EMAIL_PORT = 587    # jb hm local s mail
krte h to ye uska no h   465 - server s mail
                                      EMAIL_HOST_USER = 'abc@gmail.com'
                                      EMAIL_HOST_PASSWORD = 'Abc@123'
                                      EMAIL_USE_TLS = TRUE
                                      EMAIL_BACKEND =
'django.core.mail.backends.smtp.EmailBackend'
                              * jo 16 digit k code h usko password ki jgh
paste kr do
               Remember - hmesha page k load hote h main jayega jitna bar load
hoga utni bar jayega
       (B) EmailMultiAlternatives
               - jb  hmare mail m kuchh bold italic type k char hote h
               step 1 - views m file ko import krenge
                       from django.core.mail import EmailMultiAlternatives
                       - send_mail -> iska use normal msg ko bhejne k liye krte
```

h1
                            - EmailMultiAlternatives -> text formatting krke bhejte
h1
                        Subject = 'welcome'
                        from_email = 'abc@gmail.com'
                        msg = '<p> This is India</p>'
                        to = 'shivam@gmail.com'
                        msg =
EmailMultiAlternatives(Subject,msg,from_email,[to])   # [to] ye ek list h isme
app multiple mail ko likh skte h