

L. D. College Of Engineering
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GTU B.E. SEMESTER 7TH

Domain :- Summer Internship Report

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Domain Title :-

Python with Django

Python(Django) Internship Report

❖ Personal Details

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College Name : L. D. College Of Engineering

Degree : BE

Semester : 7th

Github URL : <https://github.com/dipen7520>

Github Task Repository URL : <https://github.com/dipen7520/Internship-Akash-Technolabs>

❖ Company Details

Company Name : Akash Technolabs

External Guide : Akash Padhiyar

Training Duration : 25-05-2021 to 21-06-2021

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INTRODUCTION TO ORGANIZATION



Akash Technolabs

K-6, Shree Krishna Center Above Crossword Library Mithakhali Six Road, Navrangpura Ahmedabad, Gujarat, India – 380009
<https://akashtechnolabs.com/>

✓ Introduction

- It is a website development company ,with 11 years of experience ,which holds a reputed image among contemporaries. They always try to provide best services to their clients.
- Website development of their firm is completely unique and adorable as well as original. They care for the trust that their clients have in them and so they assure clients to keep their quality up to the mark. They work on various website development projects on an international level too.
- They also hire new developers and give them golden opportunity to show their work and talent.
- They also give SEO services and Social Media Marketing to their clients. At Akash Technolabs they have highly professional and experienced team of developers.

✓ What they do ? :

- Mobile Development
- Dynamic Website Development
- PHP Development
- Laravel Development
- Node JS Development
- Angular JS Development
- React Native Development

✓ On Which Technologies they work most:

- Python
- Angular
- Node Js
- React Native
- Laravel
- Android
- IOS and Flutter
- Php, MongoDB

:: Day - 1 ::

- Today it was the first day of our Internship.
 - The mentor Akash Padhiyar (Founder of AkashTechnolabs) took the introductory session and gave us brief exordium about his company and about the internship and the technology which we were going to used during our internship.
 - The afterwards we started with our topic programming language python which will be of 1 week and followed by Django framework in the next week.
 - Week 1 by : Devanshi Prajapati
 - Week 2 by : Akash Padhiyar

❖ Day-1 : What we have learnt ?

- Importance of Internship in and future Job opportunities.
 - Introduction and basic knowledge of Python.
 - Installation Of Python and Different IDEs.
 - Compilation & Run the Program.
 - How to manage GitHub Desktop Account and Repository.

- ❖ Github Task-1 Link :- https://github.com/dipen7520/Internship-Akash-Techrolabs/tree/main/Day-1_Task-1_Registration%20Form

❖ **Task - 1 :-** To create Basic HTML Based a simple Registration Form.

❖ Output :-

Registration Form

Full Name

First Name, Last Name, eg : Dipen Jakasaniya

Email

Password

Date of Birth
 CALENDAR

Country

Gender
 Female Male

Apply For
 Internship
 Job

I accept [terms & conditions](#)

Register

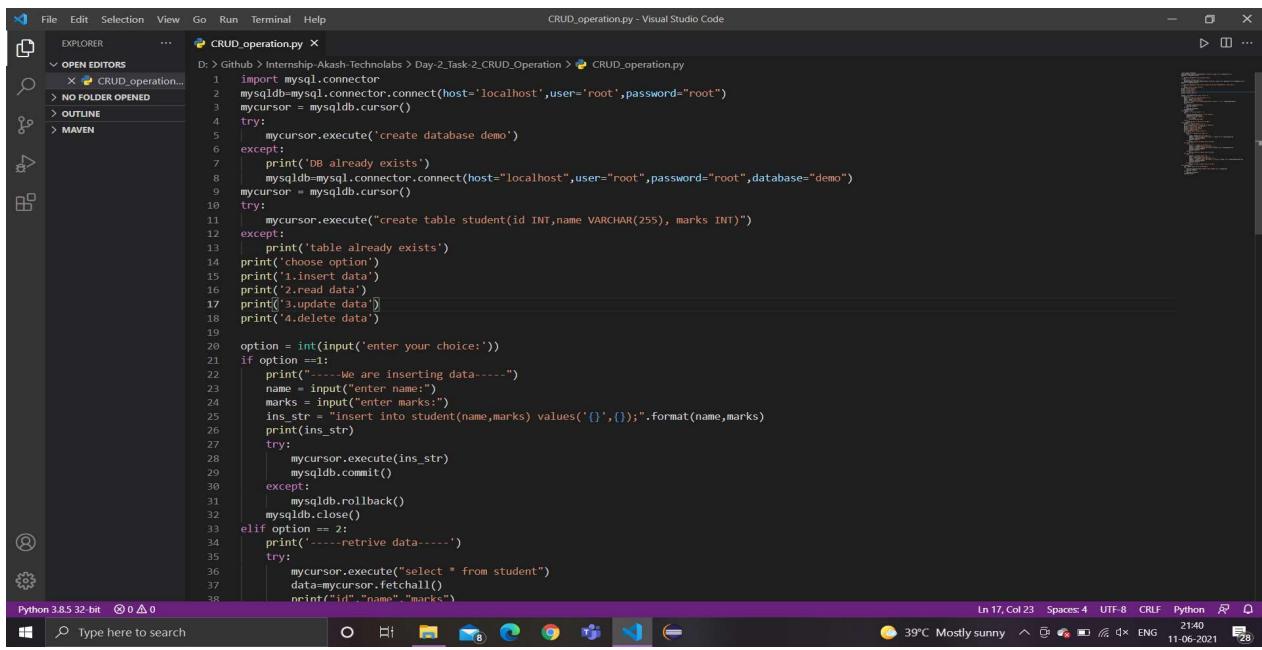
:: Day - 2 ::

- Today it was the Second day of our Internship.
- At the starting of the session Akash sir asked about our 1st day experience with his company internship. After that sir asked us questions and doubts of previous day task. Then we started with our topic programming language python.
- Taken by : Devanshi Prajapati

❖ Day-2 : What we have learnt ?

- How to define Comments.
- How to define Variables. (variable assignment)
- Various types of DataTypes (Numbers, String, Tuple, List, Dictionary, Boolean)
- Type Castings
- Errors in Different DataTypes.
- Functions and its use. (type(), append(), Ininstance(), etc...)
- ❖ This Internship is Task Based Internship. So at the end of this session we got one Task.
- ❖ Github Task-1 Link :- https://github.com/dipen7520/internship-Aakash-Techolabs/tree/main/Day-2_Task-2 CRUD_Operation

❖ Task - 1 :- Advance Task : Python CRUD operation using MySQL



The screenshot shows a Visual Studio Code interface with the following details:

- File Explorer:** Shows a single file named "CRUD_operation.py" under the "OPEN EDITORS" section.
- Code Editor:** Displays the following Python script:

```
File Edit Selection View Go Run Terminal Help
CRUD_operation.py - Visual Studio Code

D:\Github\Internship-Aakash-Techolabs\Day-2_Task-2 CRUD_Operation> CRUD_operation.py

1 import mysql.connector
2 mysqlDb=mysql.connector.connect(host="localhost",user="root",password="root")
3 mycursor = mysqlDb.cursor()
4 try:
5     mycursor.execute('create database demo')
6 except:
7     print("DB already exists")
8     mysqlDb=mysql.connector.connect(host="localhost",user="root",password="root",database="demo")
9 mycursor = mysqlDb.cursor()
10 try:
11     mycursor.execute("create table student(id INT,name VARCHAR(255), marks INT)")
12 except:
13     print('table already exists')
14 print('choose option')
15 print('1.insert data')
16 print('2.read data')
17 print('3.update data')
18 print('4.delete data')
19
20 option = int(input('enter your choice:'))
21 if option ==1:
22     print("-----We are inserting data-----")
23     name = input("enter name:")
24     marks = input("enter marks:")
25     ins_str = "insert into student(name,marks) values('{}','{}')".format(name,marks)
26     print(ins_str)
27     try:
28         mycursor.execute(ins_str)
29         mysqlDb.commit()
30     except:
31         mysqlDb.rollback()
32         mysqlDb.close()
33 elif option == 2:
34     print("-----retrieve data-----")
35     try:
36         mycursor.execute("select * from student")
37         data=mycursor.fetchall()
38         print("id", "name", "marks")
```

The status bar at the bottom shows: Ln 17, Col 23 Spaces: 4 UTF-8 CRLF Python 21:40 39°C Mostly sunny ENG 11-06-2021 28

❖ Output :-

● Insert :-

```
D:\Github\Internship-Akash-Technolabs\Day-2_Task-2 CRUD_Operation>python CRUD_operation.py
DB already exists
choose option
1.insert data
2.read data
3.update data
4.delete data
enter your choice:1
-----We are inserting data-----
enter name:dipen patel
enter marks:99
insert into student(name,marks) values('dipen patel',99);

D:\Github\Internship-Akash-Technolabs\Day-2_Task-2 CRUD_Operation>
```

● Retrieve Data :-

```
D:\Github\Internship-Akash-Technolabs\Day-2_Task-2 CRUD_Operation>python CRUD_operation.py
DB already exists
table already exists
choose option
1.insert data
2.read data
3.update data
4.delete data
enter your choice:2
-----retrive data-----
id name marks
1 dipen patel 99

D:\Github\Internship-Akash-Technolabs\Day-2_Task-2 CRUD_Operation>
```

● Update Data:-

```
D:\Github\Internship-Akash-Technolabs\Day-2_Task-2 CRUD_Operation>python CRUD_operation.py
DB already exists
table already exists
choose option
1.insert data
2.read data
3.update data
4.delete data
enter your choice:3
-----Update Data-----
enter student id to update1
select option for update
1.update only name
2.update only marks
3.update both
enter update option:1
----update only name---
enter new name :Dipen Jaka
```

● Delete Data :-

```
D:\Github\Internship-Akash-Technolabs\Day-2_Task-2 CRUD_Operation>python CRUD_operation.py
DB already exists
table already exists
choose option
1.insert data
2.read data
3.update data
4.delete data
enter your choice:4
Enter ID to be Deleted1
```

● MySQL DataBase :-

The screenshot shows the MySQL Workbench interface. In the top-left corner, the title bar reads "MySQL Workbench Local instance MySQL80". The main window has a toolbar at the top with various icons for file operations, queries, databases, and server management. Below the toolbar is a "Navigator" pane on the left, which lists "SCHEMAS" (demo, sakila, sys, world) and "Tables" (student, Views, Stored Procedures, Functions) under the demo schema. A "Query Editor" tab titled "Query 1" contains the SQL command: "SELECT * FROM demo.student;". To the right of the query editor is a "Result Grid" showing the following data:

	id	name	marks
▶	2	Dipe...	99
▶	3	Dhru...	100
●	NULL	NULL	NULL

Below the result grid is a vertical toolbar with icons for "Result Grid", "Form Editor", and "Field Types". On the left side of the main area, there's an "Information" pane with tabs for "Administration" and "Schemas". The "Schemas" tab is selected, showing the "student" schema details. The "Table: student" section shows the following columns:

Columns:	id	int AI PK
	name	varchar(255)
	marks	int

At the bottom of the screen, there's a taskbar with icons for the Start button, search, and various system applications like File Explorer, Mail, and Google Chrome. The system tray shows the date (27-05-2021), time (09:42), battery level (32°C), and network status.

:: Day - 3 ::

- Today it was the third day of our Internship and we were very excited to learn something new.
- In this session many students were asked their doubts and ma'am was trying to solve it.
- Taken by : Devanshi Prajapati

❖ Day-3 : What we have learnt ?

- I/O function
 - Functions. (range ())
 - Conditional Statements.
 - If statement
 - If...else Statement
 - If...elif...else Statement
 - Nested if statements
 - Loops
 - While loop
 - For loop
 - Nested loop
 - Break & Continue & Pass Statements
- ❖ This Internship is Task Based Internship. So at the end of this session we got one Task.
- ❖ Github Task-1 Link :- https://github.com/dipen7520/internship-Akash-Technolabs/tree/main/Day-3_Task-3_15%20basic_tasks

❖ Tasks :-

1. Calculate average of 5 numbers.
2. Check whether number is even or odd.
3. Take a year and check whether it is leap year or not
4. Take a number and check whether it is zero, positive or negative.
5. Take 2 numbers and display greatest number. (Also check equal number condition)
6. Take a number and find factorial of that number.
7. Write a program to swap 2 numbers using third variable.
8. Take 2 numbers and find smallest number.

9. Take a number check if a number is less than 100 or not. If it is less than 100 then check if it is odd or even.
10. Take a number to print the square of a number if it is less than 10.
11. Take a number and check whether it is zero, positive or negative using nested IF...ELSE statement .
12. Take 3 numbers and find greatest number using nested IF....ELSE statement.
13. Take 3 numbers and find smallest number using logical operator.
14. Write a program to swap 2 numbers without taking third variable.
15. Take starting number and ending number from the user and print following series.

30 27 24 21 18 15 12 9 6 3 0

```

File Edit Selection View Go Run Terminal Help
pract_05_greatest_num.py - Day-3_Task-3.15 basic_tasks - Visual Studio Code

EXPLORER OPEN EDITORS
pract_05_greatest_num.py
pract_05.greatest.num.py
1 number = []
2 for i in range(1, 3):
3     number.append(int(input(f'Enter the number{i}: ')))
4
5 if number[0] == number[1]:
6     print(f'{number[0]} and {number[1]} are equal.')
7 elif number[0] > number[1]:
8     print(f'{number[0]} is greater than {number[1]}.')
9 else:
10    print(f'{number[1]} is greater than {number[0]}.')

```

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** pract_05_greatest_num.py - Day-3_Task-3.15 basic_tasks - Visual Studio Code.
- Explorer Panel:** Shows a tree view of files in the current workspace, including 'pract_05_greatest_num.py' which is currently selected.
- Editor Area:** Displays the Python code for finding the greatest number between two inputs.
- Bottom Status Bar:** Python 3.8.5 32-bit, Type here to search, and various system icons.
- Bottom Taskbar:** Shows the Windows taskbar with icons for File Explorer, File Manager, Mail, Edge, Google Chrome, and VS Code.
- Bottom System Tray:** Shows weather (39°C Mostly sunny), battery level (2141), and date/time (11-06-2021).

❖ Output :-

✧ Task - 1 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ay-3_Task-3_15 basic_tasks/pract_01_average.py"
Enter the number1: 32
Enter the number2: 23
Enter the number3: 45
Enter the number4: 66
Enter the number5: 78
The average is 48.8.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

✧ Task - 2 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ay-3_Task-3_15 basic_tasks/pract_02_odd_even.py"
Enter the number: 65
65 is a odd.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ay-3_Task-3_15 basic_tasks/pract_02_odd_even.py"
Enter the number: 22
22 is a even.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

✧ Task - 3 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ay-3_Task-3_15 basic_tasks/pract_03_leap_year.py"
Enter the year: 2021
2021 year is not a leap year.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ay-3_Task-3_15 basic_tasks/pract_03_leap_year.py"
Enter the year: 2020
2020 year is a leap year.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

✧ Task - 4 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/  
ay-3_Task-3_15 basic_tasks/pract_04_positve.py"-  
Enter the number: 33  
33 is a positive.  
Enter the number: -45  
-45 is a negative.  
Enter the number: 22  
22 is a positive.  
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> []
```

❖ Task - 5 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/H  
ay-3_Task-3_15 basic_tasks/pract_05_greatest_num.py"-  
Enter the number1: 15  
Enter the number2: 63  
63 is greater than 15.  
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> []
```

❖ Task - 6 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_06_factorial.py"-  
Enetr the number: 6  
Factorial of 6 is a 720.  
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> []
```

❖ Task - 7 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/Py  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_07_swap_num.py"-  
Enter the number1: 32  
Enter the number2: 45  
number1 is 45  
number2 is 32  
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> []
```

❖ Task - 8 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_08_smallest_num.py"
```

Enter the number1: 54

Enter the number2: 33

33 is smaller than 54.

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

❖ Task - 9 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python,  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_09_less_100.py"
```

Enetr the number: 32

Number is less than 100 and even.

Enetr the number: 96

Number is less than 100 and even.

Enetr the number: 120

Number is greater than 100.

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

❖ Task - 10 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python,  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_10_square_number.py"
```

Enter the number: 65

Number is not less than 10.

Enter the number: 66

Number is not less than 10.

Enter the number: 9

Square of 9 is a 81

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

❖ Task - 11 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_11_+ve_-ve_nested.py"
Enter the number: 33
33 is Positive.
Enter the number: -65
-65 is Negative.
Enter the number: 0
0 is Zero.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

❖ Task - 12 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_12_greatest_of_3.py"
Enter the number1: 12
Enter the number2: 13
Enter the number3: 14
14 is a greatest number.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

❖ Task - 13 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_13_smallest_logic.py"
Enter the number1: 64
Enter the number2: 12
Enter the number3: 0
0 is a smallest number.
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

❖ Task - 14 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_14_swap_without_3rd.py"  
Enter the number1: 63  
Enter the number2: 33  
number1 is 33  
number2 is 63  
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

❖ Task - 15 :-

```
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/Python38-32  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_15_start-end.py"  
Enter the starting number: 1  
Enter the ending number: 3  
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks> & C:/Users/HP/AppData/Local/Programs/Python/Python38-32  
ship-Akash-Technolabs/Day-3_Task-3_15 basic_tasks/pract_15_start-end.py"  
Enter the starting number: -1  
Enter the ending number: 6  
PS D:\Github\Internship-Akash-Technolabs\Day-3_Task-3_15 basic_tasks>
```

:: Day -4 ::

❖ Day-4 : What we have learnt ?

- On this day we learned the most important feature of any programming language which is also extended in Python too which is “Functions”
- In today's session we get to know about moto behind usage of function which is to perform specific task of any program.
- Then we learned syntax of defining function in python programming language.
- Any function is divided in small parts
 1. “def” keyword
 2. Function name
 3. (arguments)
 4. “:” symbol
 5. Function “body”.
 6. Return statement (optional)
- We also learned about three different types of arguments which can be provided in python function
 1. Default arguments
 2. Keyword arguments
 3. Variable-Length arguments
- We perform all types of arguments program to understand well and this helps us in remembering for long time.
- We also learned about non keyword arguments as well as keyword arguments where in non keyword we provide arguments without using argument name where as in keyword arguments we provide arguments name which is defined in calling function.
- Then after we get the information about Scope of variable which is mainly two typed 1
 1. Global Variable
 2. Local variable
- Variables that are defined inside a function body have a local scope, and those defined outside have a global scope.
- We also get the information about ‘indentation error: expected an indented block’
- After that we get to know about module functionality of python programming.
- That are used to break down big programs in small ones as well as make program or project organized.
- We can define our most used functions in a module and import it, instead of copying their definitions into different programs. We also perform example program.

➤ Then we dived into operator world and get information about how many type of various operators exists in python programming language.

1. Arithmetic
2. Comparison
3. Logical
4. Assignment
5. Membership
6. Identity

➤ Arithmetic operators are used to perform arithmetic computing(add, subtract, multiply, Division etc...)

➤ Logical operators(and,or,not) are used to accomplish logical tasks.

➤ Like wise we have done all program of these operators.

❖ Github Task-1 Link :- https://github.com/dipen7520/internship-Akash-Techolabs/tree/main/Day-4-Task-4_Arithmatic_operators

❖ Task :-

Perform all program performed in session

```
operators.py
1 print("-----Operators-----")
2
3 x=10
4 y=6
5 z=0
6 lst = [10, 20, 30, 40, 50, 60, 'hello', 'Guys']
7 print("x:",x)
8 print("y:",y)
9 print("z:",z)
10 print("lst:",lst)
11 print("-----")
12
13 print("<----Arithmetic operators---->")
14 print("x+y=",x+y)
15 print("x-y=",x-y)
16 print("x*y=",x*y)
17 print("x/y=",x/y)
18 print("x//y=",x//y)
19 print("x%y=",x%y)
20
21 print("<----Comparison Operators---->")
22 print("x>y =",x>y)
23 print("x<y =",x<y)
24 print("x==y =",x==y)
25 print("x!=y =",x!=y)
26 print("x<=y =",x<=y)
27 print("x!<=y =",x!<=y)
28
29 print("<----Logical Operators---->")
30 print("----and----")
31 if x>y and x>z:
32     print("x is the largest")
33     if y>x and y>z:
34         print("y is the largest")
35     if z>x and z>y:
36         print("z is the largest")
37
38
39 Restricted Mode
```



Output :-

```
C:\Users\patel\Desktop\HackerRank>python test.py
----simple function---
hello
----function with arguments---
Hello World
----function with return---
a+b=30
----function with multiple return---
College = LDCE
Department = IT(7th sem)
---Default arguments---
default() : 30
default(4,5) : 9
---Keyword arguments---
keyargs(a=10,b=20) -10
keyargs(b=10,a=20) 10
---Var-length(non-keyword) arguments---
varlength(10,20) : [10, 20]
varlength(10,20,30) : [10, 20, 30]
varlength(10,20,30,40) : [10, 20, 30, 40]
---Var-length(keyword) arguments---
varlengthk(car="BMW",price=2500000) ::: {'car': 'BMW', 'price': 2500000}
varlengthk(car="BMW",price=2500000,country="india") ::: {'car': 'BMW', 'price': 2500000, 'country': 'india'}
----Scope of Variable---
Value inside function : 10
value outside function: 20
----Module Function---
120
```

```
C:\Windows\System32\cmd.exe

C:\Users\patel\Desktop\HackerRank>python operators.py
-----
-----Operators-----
x: 10
y: 6
z: 20
lst: [10, 20, 30, 40, 50, 60, 'hello', 'Guys']
-----
<----Arithmetic operators---->
x+y= 16
x-y= 4
x*y= 60
x/y= 1.6666666666666667
x//y= 1
x%y= 4
<----Comparision Operators---->
x>y = True
x<y = False
x==y = False
x>=y = True
x<=y = False
x!=y = True
<----Logical Operators---->
----and----
z is the largest
----or----
enter char:a
a is Vowel
<----Membership Opearator---->
x in lst: True
y in lst: False
y not in lst: True
<----Identity Opearator---->
x is y: False
x is not y: True
```

:: Day -5 ::

❖ Day-5 : What we have learnt ?

- In today's session of python for Django we learned about class concept in object oriented programming language.
- Firstly we learned 'what is class and why it is so important for any OOP languages?'. Which help us to make ourselves comfortable before diving more deeply in it.
- Then we learned how to define any class in python and basic syntax of defining class in python programming language.

Syntax: "class MyClass:"

- Classes are mostly used to contain data field to store the data and defining various useful methods'.
- Then we learned how to access class field like variables and it defined methods to perform any according tasks. This requirement is fulfilled by Object of that class which is also known as instance of class which provide access for any element or method of that related class.

Syntax: "object = MyClass()"

- Then we perform our first program of this session related to class to understand well practically.
- Then we differentiate method and function and understand what are various difference between methods and functions.
- Then we get to know about 'self' argument which are mostly used in method of class call initializer this method is also known as '__init__' method its work is to initialize the variable of class.

- This __init__ method is also called constructor of class. There are mainly two type of constructor in python.

1. Default Constructor

2. Parameterized Constructor

- Then we learned how to use and when to use these above mentioned constructors by taking one example.

- Then we got introduced to the most important and enrich concept of OOP known as 'INHERITANCE' and its various types. It allows user to make general class and then extend that class in more specialized class (parent-child class concept).

Syntax: class Subclass(Superclass):

#body

- Types:
 1. Single-Level Inheritance
 2. Multi-level Inheritance
 3. Multiple Inheritance
 4. Hierarchical Inheritance
 5. Hybrid Inheritance
- The we learned these types of inheritance deeply with example of each type which help use to make understand very well and conceptual way.
- Then we learned 2nd most important topic of OOP called '**Polymorphism**'. Which is ability to use common interfaces for multiple form
 1. Overriding Methods
 2. Overloading Methods
- We performed some example related to both type of polymorphism. And dive into base of OOP.
- ❖ This Internship is Task Based Internship. So at the end of this session we got one Task.
- ❖ Github Task-5 Link :- https://github.com/dipen7520/internship-Akash-Technolabs/tree/main/Day-5-Task-5_OOP_based_tasks

❖ **Tasks :-**

1. Create a class call1 that will calculate sum of three numbers. Create setdata() method which has three parameters that contain numbers. Create display() method that will calculate sum and display sum.
2. Create a class cal2 that will calculate area of a circle. Create setdata() method that should take radius from the user. Create area() method that will calculate area . Create display() method that will display area .

3. Create a class cal3 that will calculate simple interest. Create constructor method which has three parameters .Create callInterest() method that will calculate Interest . Create display() method that will display Interest.
4. Create a class cal4 that will calculate square of a number. Create setdata() method which has one parameters that contain number. Create display() method that will calculate sum.(Function should return value)
5. Consider an employee class, which contains fields such as name and designation. And a subclass, which contains a field salary. Write a program for inheriting this relation.
6. Create a class cal5 that will calculate area of a rectangle. Create constructor method which has two parameters .Create calArea() method that will calculate area of a rectangle. Create display() method that will display area of a rectangle.
7. Create a class cal6 that will calculate area of a square. Create setdata() method that should take length from the user. Create area() method that will calculate area . Create display() method that will display area .
8. Write a program with use of inheritance: Define a class publisher that stores the name of the title. Derive two classes book and tape, which inherit publisher. Book class contains member data called page no and tape class contain time for playing. Define functions in the appropriate classes to get and print the details.
9. Create a class called scheme with scheme_id, scheme_name,outgoing_rate, and message_charge. Derive customer class form scheme and include cust_id, name and mobile_no data.Define necessary functions to read and display data.
10. Create a arith class. The class should have a parameterized constructor and methods to add, subtract and multiply two numbers and to return the answers

The screenshot shows a Visual Studio Code interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** task-6.py - Day-5-Task-5_OOP_based_tasks - Visual Studio Code
- Explorer Bar:** Shows a folder structure under "OPEN EDITORS" named "DAY-5-TASK-5_OOP_BASE...". It contains files: task-1.py, task-2.py, task-3.py, task-4.py, task-5.py, task-6.py (the active file), task-7.py, task-8.py, task-9.py, and task-10.py.
- Editor Area:** Displays the Python code for "task-6.py". The code defines a class `cal5` with an `__init__` method to initialize length and width, and a `calArea` method to calculate the area and print it. It also includes a main block to get user input for length and width and create an object of `cal5` to call its `calArea` method.
- Bottom Status Bar:** Shows Python 3.8.5 32-bit, 0 errors, 0 warnings, Line 21, Column 14, Spaces: 4, UTF-8, CRLF, Python, 21:42, 11-06-2021, 28 tabs open.



Output :-

```
D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-1.py
A10+20+30 = 60

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-2.py
Area of circle with radius 3 =28.27

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-3.py
enter p:12
enter r:3
enter n:6
for p=12,r=3.0,n=6 simple interest = 2.16

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-4.py
enter any number:65
square of value 65 is 4225

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-5.py
-----Employee class display()-----
name : ABCDEFG
designation : HR Manager
-----Subclass display()-----
name : ABCDEFG
designation : HR Manager
salary : 10000

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-6.py
enter length:54
enter width:66
Area of rectangle with length=54 and width =66 is 3564
```

```
D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-7.py
enter length:1
Area of square with length = 1 is 1

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-8.py
----Publisher display()----
Name : John Carter
----Book display()----
Name : John Carter
Pages: 200
----Tape display()----
Name : John Carter
Pages: 200
time :3 hrs

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-9.py
Scheme id      : 1
Scheme name    : ABC
Outgoing rate  : 20.4
Message Charge : 10000
Customer id   : 10
Customer name  : PQR
Customer mobile: 1234569878

D:\STUDY\Internships & Projects\Internship-Akash-Technolabs\Day-5_OOP_based_tasks>python task-10.py
enter a: 23
enter b: 21
23 + 21 = 44
23 - 21 = 2
23 * 21 = 483
```

:: Day -6 ::

❖ Day-6 : What we have learnt ?

- From Today's session we started our main agenda of this amazing internship program which is **Django**.
- Today we didn't begin programming. This was just theoretical session of python framework Django.
- We begin with little introduction of all web based python frameworks some of them are following
 1. Django
 2. Web2py
 3. Flask
 4. Tornado
 5. Cherrypy and many more ...
- Then we dived in to our main topic Django deeply and understand
 1. what it is?
 2. Why it is so popular in market?
 3. Which are the amazing features those Django provide?
- We learn moto of Django framework or we can say we learn principle behind Django which is DRY (Don't Repeat Yourself)
- We also get to know about Django has an inbuilt supportive library for multiple databases,
 1. MySQL
 2. PostgreSQL
 3. SQLite3
 4. Oracle
- Then we are got aware about what we are going to learn about Django in this internship like Internship Highlights
 1. Authentication support
 2. Database schema migrations
 3. Object-relational mapper (ORM)
 4. Support for web servers

- 5. Template engine**
 - 6. URL routing**
- Then we suddenly jumped into history of Django like who made it and how they named this framework “Django” and we also gathers info about version time line of Django which shows version and its release dates.
 - **Features:**
 1. It's fast and simple
 2. Open Source
 3. It's secure
 4. It suits any web application project
 5. It's well-established
 - After that we get an information about which companies are using Django in this contemporary world to grow their business and marketing
 - The we learned MVT structure which are used by Django to develop any Django project in organized way.
- **Model**
 - Defines the data structure.
 - Takes care for querying the database.
 - **View**
 - Defines what data should be presented
 - Returns HTTP response
 - **Template**
 - Renders the data in suitable format – HTML/XML/etc...
- After that which know what are prerequisites of learning Django which include basic of python and its functionalities.
 - Then we choose our code editor(VS Code) for programming in Django and installed it.
 - Then using ‘pip’ we install Django into our system but before that we set out python path to environment variable.
 - Then we learn about ‘pip’ command also called ‘Pip Installs Packages’.
 - Then we learned some basic command like how to download, upgrade, and uninstall any python library using “pip” command.
 - We also learned how to find version of any installed python libraries using “pip”. As well as we learned how to see all installed python libraries in our system.

- Then we visited Django official website where all documentation of Django is already there.
- Then we learned how to start Django project using Django-admin startproject command.
- This command will generate some base file of Django in your working directory. Then we run our first program of Django in this internship using
■ **python manage.py runserver.**
- Then we understood all file provided inbuilt by Django one by one .And learned Django project life cycle.
- We run program of Django in VS Code as well as Pycharm.

:: Day -7 ::

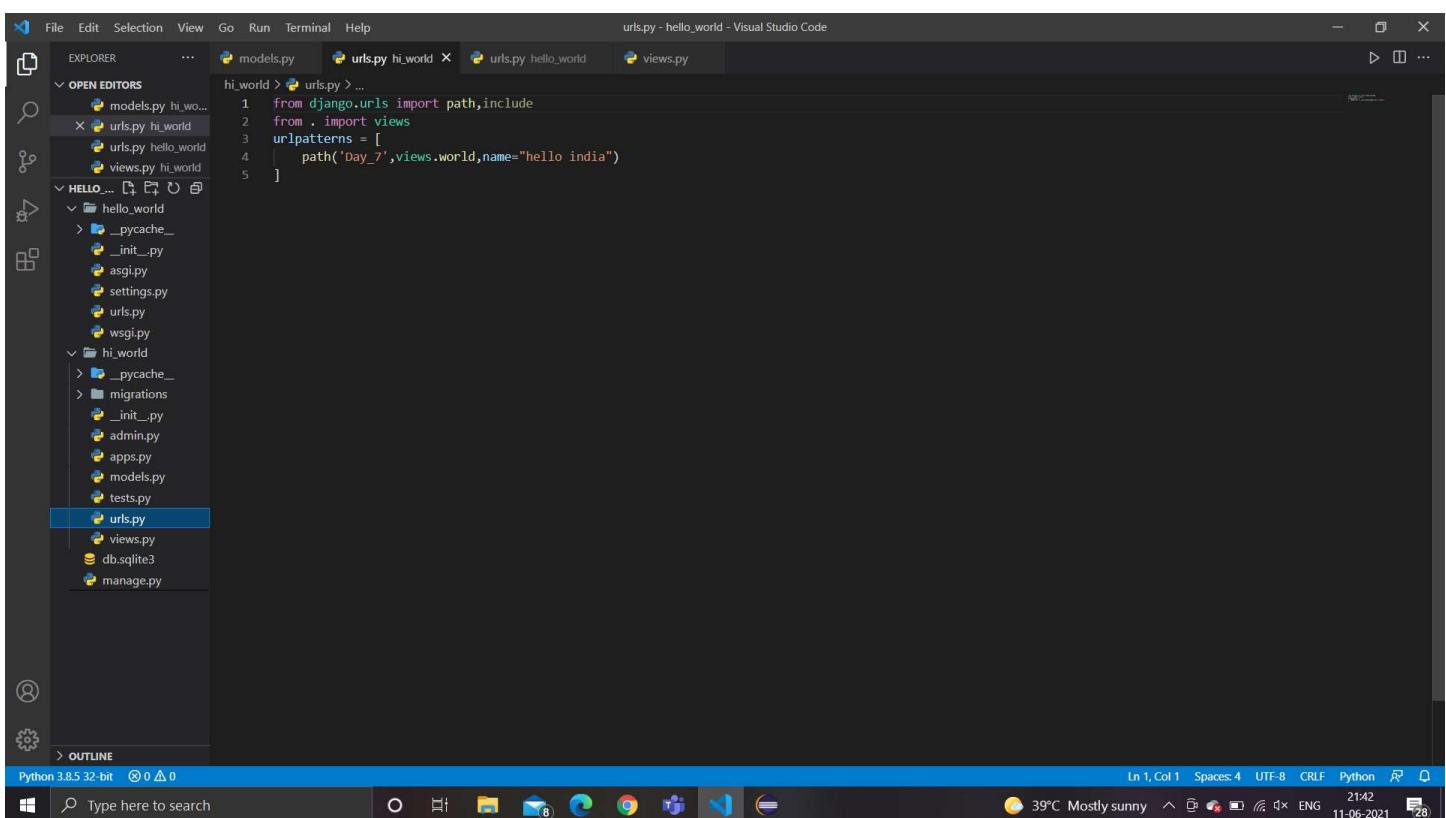
❖ Day-7 : What we have learnt ?

- In today's session we created project and app.
- After that we run our server and make migrations.
- And we added urls to the url.py files.

❖ This Internship is Task Based Internship. So at the end of this session we got one Task.

❖ Github Task-7 Link :- https://github.com/dipen7520/internship-Akash-Techolabs/tree/main/Day-7_Django_hello-world

❖ Task :- Print Hello_World using basic Django.



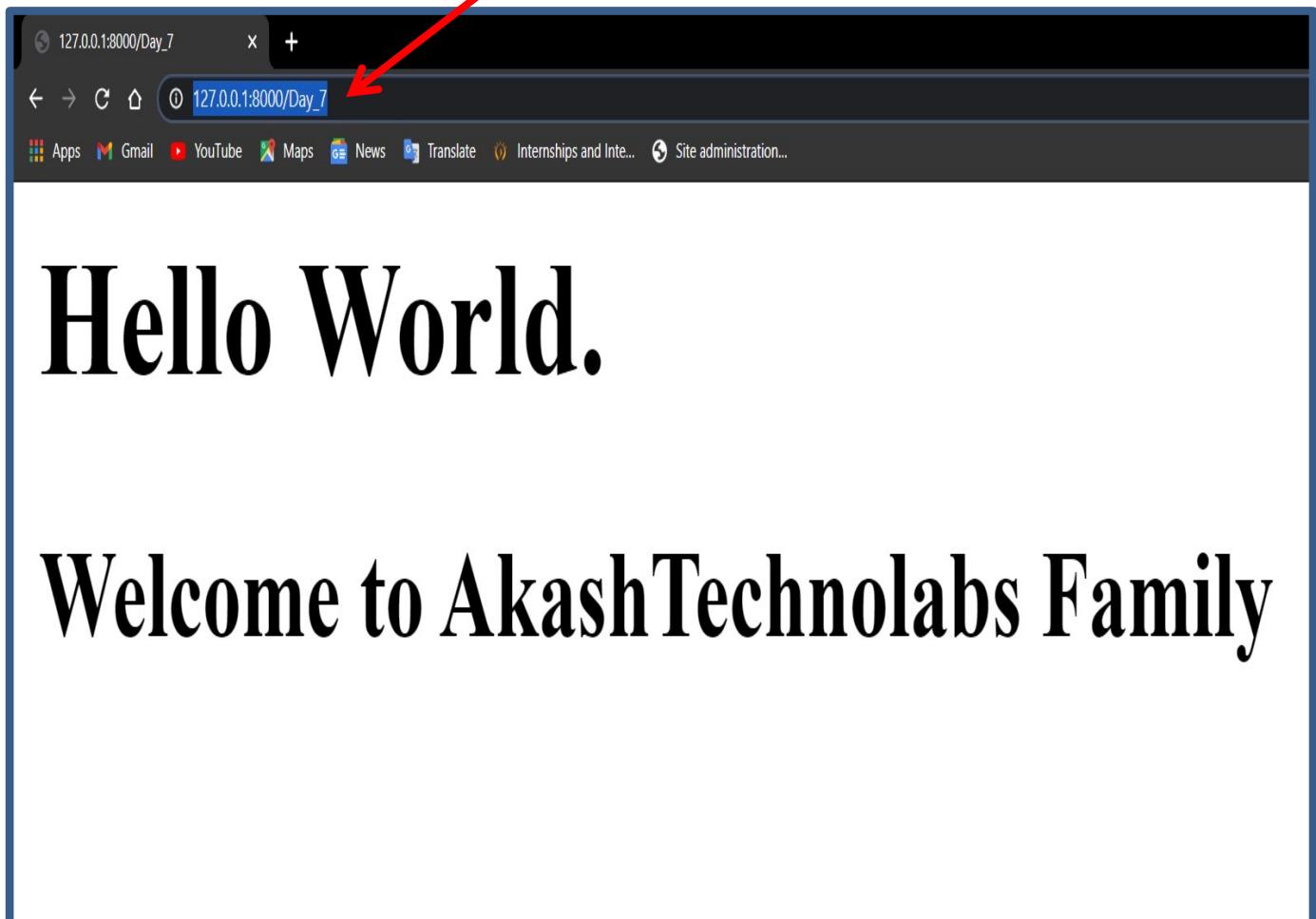
The screenshot shows a Visual Studio Code interface with the following details:

- File Explorer:** Shows the project structure:
 - hi_world (root folder)
 - __pycache__
 - hello_world
 - __init__.py
 - asgi.py
 - settings.py
 - urls.py
 - wsgi.py
 - hi_world (app folder)
 - __pycache__
 - migrations
 - __init__.py
 - admin.py
 - apps.py
 - models.py
 - tests.py
 - urls.py
 - views.py
 - db.sqlite3
 - manage.py
 - Code Editor:** The file "urls.py" is open in the editor, showing the following Python code:

```
from django.urls import path, include
from . import views
urlpatterns = [
    path('Day_7', views.world, name="hello india")
]
```
 - Bottom Status Bar:** Shows "Python 3.8.5 32-bit" and other system information like "39°C Mostly sunny" and the date/time "11-06-2021 21:42".

❖ **Output :-**

Day_7

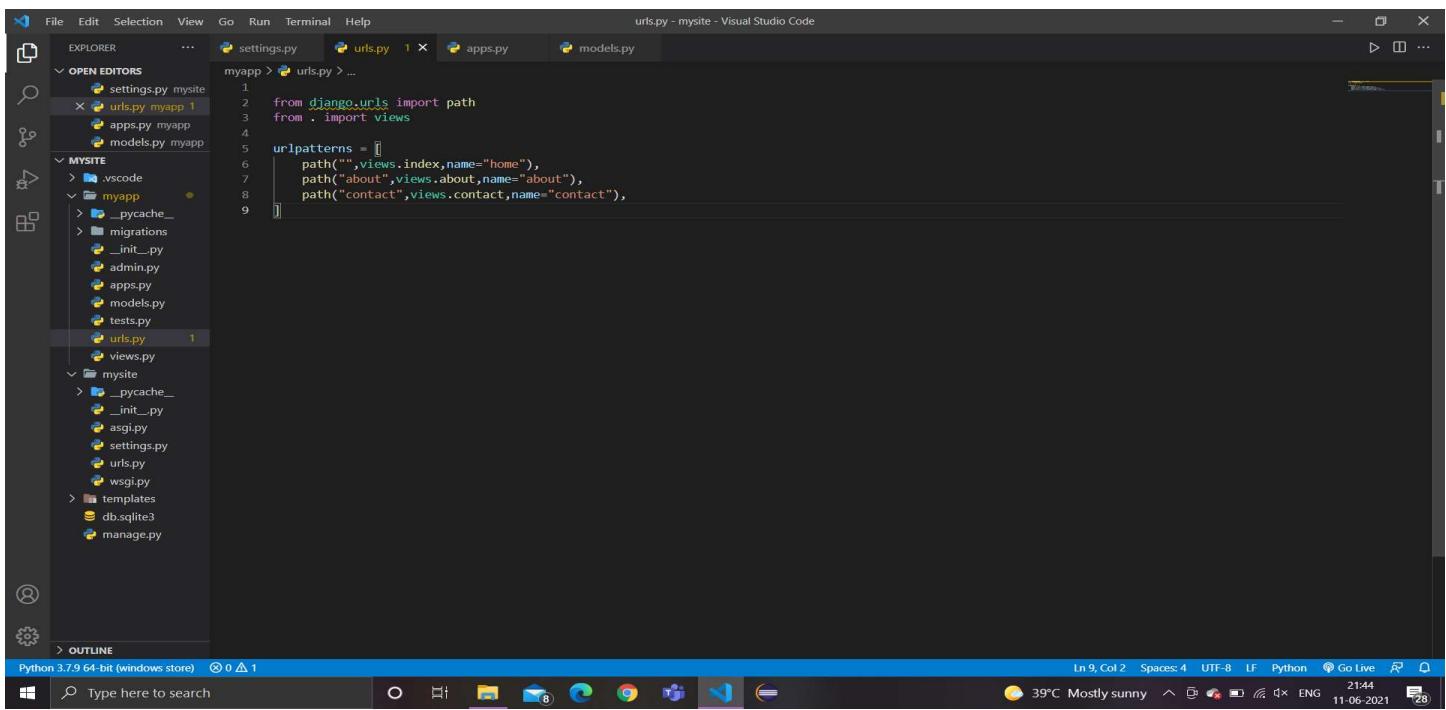


:: Day -8 ::

❖ Day-8 : What we have learnt ?

- In today's session we learned how to navigate through multiple pages using various urls and its associated functions of views.py.
 - We also learned how to setup path for templates and static file which are most useful features of Django we import images for static folder using different syntax of jinja2 than regular html syntax for importing CSS,JS, Images files into html page.
- ❖ This Internship is Task Based Internship. So at the end of this session we got one Task.
- ❖ Github Task-8 Link :- https://github.com/dipen7520/internship-Akash-Technolabs/tree/main/Day-8_Template_Integration/mysite

❖ Task :- Templates integration and css loading and image loading.



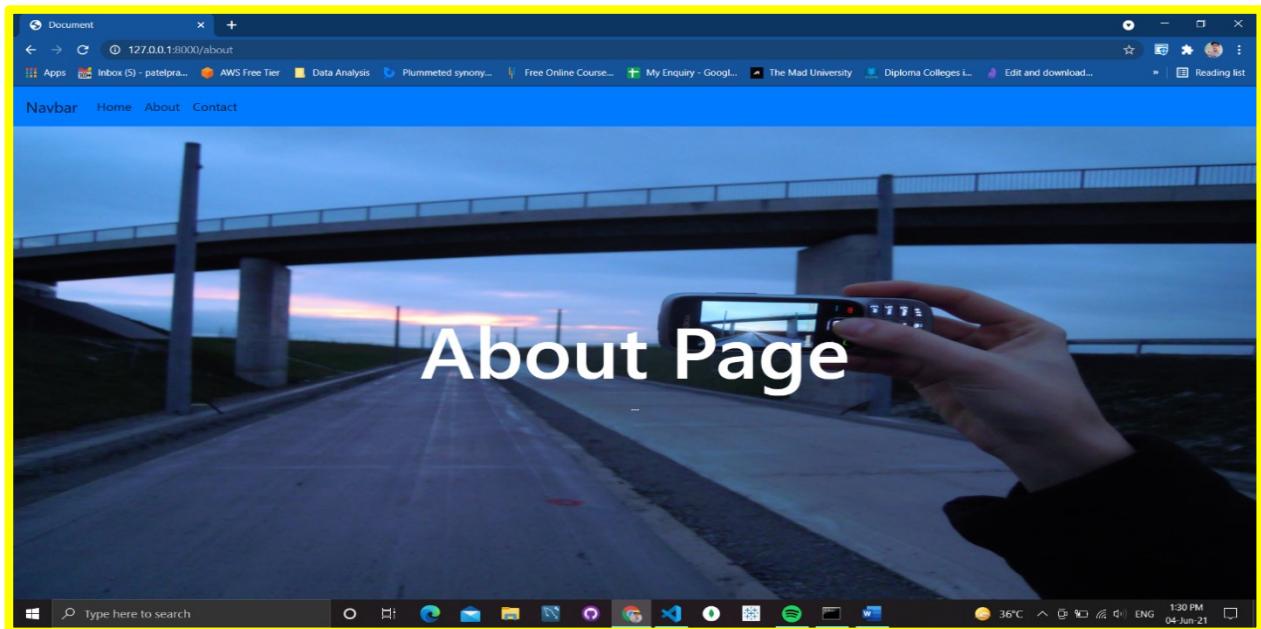
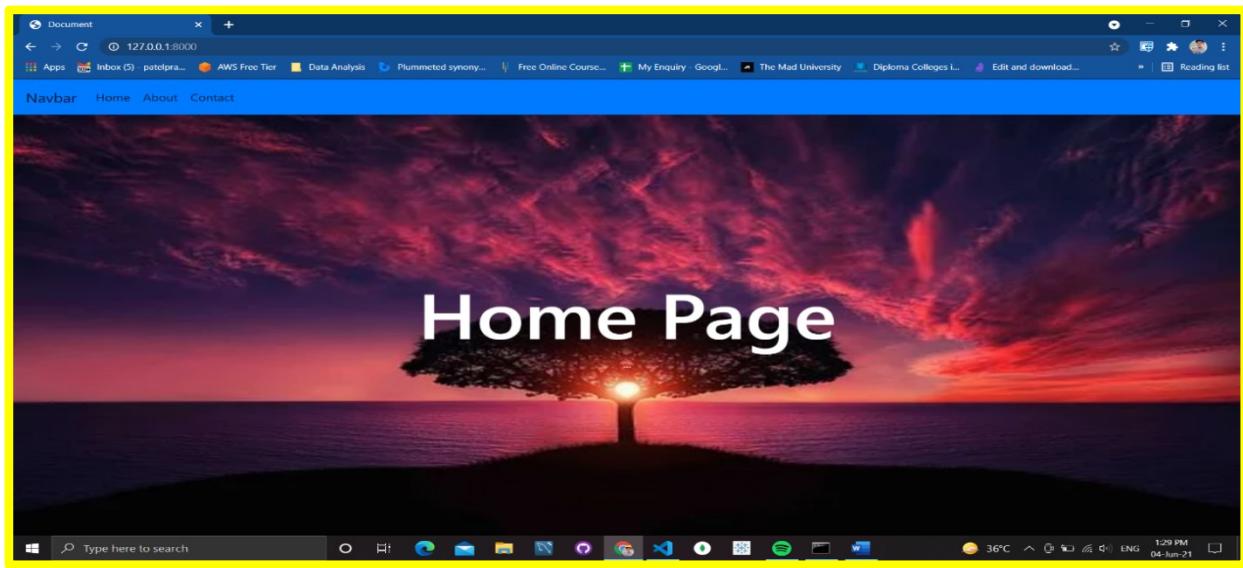
The screenshot shows a Visual Studio Code interface with the following details:

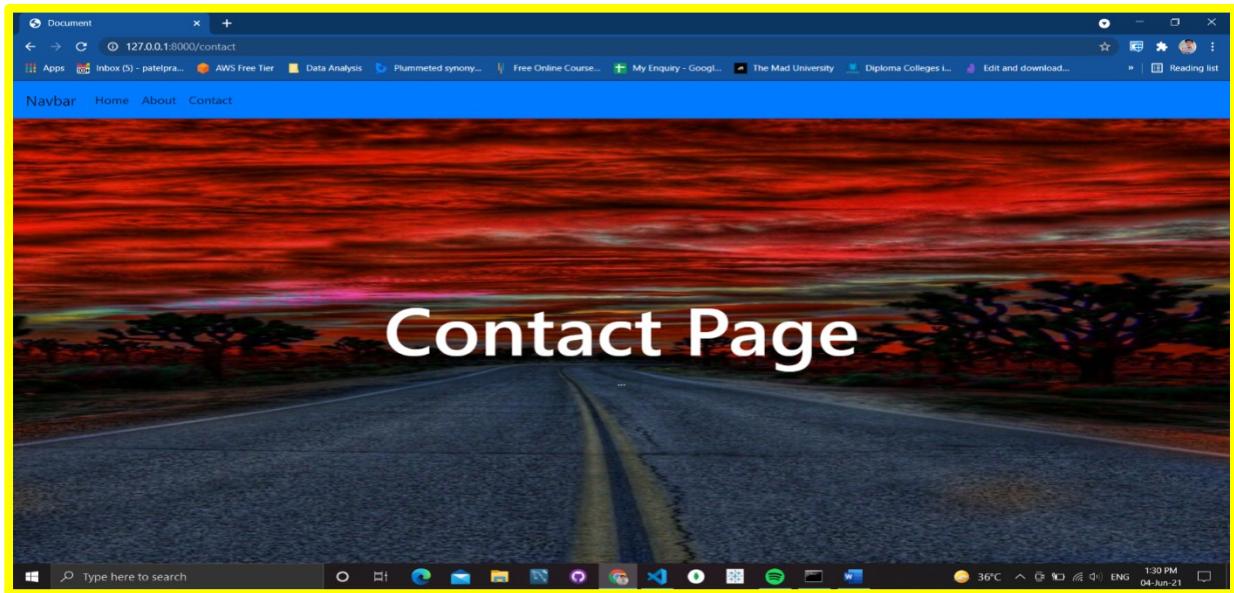
- File Explorer:** Shows the project structure:
 - MYSITE** folder contains `__init__.py`, `migrations`, `myapp`, `tests.py`, and `mysite`.
 - `myapp` folder contains `__init__.py`, `migrations`, `admin.py`, `apps.py`, `models.py`, `tests.py`, `urls.py` (selected), and `views.py`.
 - `mysite` folder contains `__init__.py`, `asgi.py`, `settings.py`, `urls.py`, and `wsgi.py`.
 - Open Editors:** `urls.py` is the active editor, showing the following code:from django.urls import path
from . import views

urlpatterns = [
 path("", views.index, name="home"),
 path("about", views.about, name="about"),
 path("contact", views.contact, name="contact"),



Output :-





:: Day -9 ::

❖ Day-9 : What we have learnt ?

- This session was also completely based on practical. In this session we learned how to get data from html form and print them in console as well as transfer them to another html page using “context” variable which is passed through render() which used to render template.
- Then we learned a bit about `{% csrf_token %}`. The **CSRF token** only ensures that only forms that have originated from trusted domains can be used to POST data back.
- Then lecturer made basic form with some fields and showed us how's that working in real life.

❖ Github Task-9 Link :- https://github.com/dipen7520/Internship-Akash-Technolabs/tree/main/Day-8_Template_Integration/mysite

❖ **Task :- Get data from user.**

The screenshot shows a Visual Studio Code interface with the following details:

- File Explorer:** Shows the project structure:
 - OPEN EDITORS: `data.html`, `form.html`
 - MYSITE:
 - myapp
 - __pycache__
 - migrations
 - mysite
 - __pycache__
 - __init__.py
 - admin.py
 - apps.py
 - models.py
 - tests.py
 - urls.py
 - views.py
 - templates
 - `data.html`
 - `form.html`
- Code Editor:** Displays the contents of `data.html`:

```
1 Name : {{fn}} {{ln}} <br>
2 Email : {{email}}<br>
3 Gender : {{gender}}<br>
4 Contact : {{contact}}<br>
5 Address : {{address}},zip={{zipcode}}<br>
6 College : {{dept}},{{college}} <br>
```
- Status Bar:** Shows "No Python interpreter is selected. You need to select a Python interpreter to enable features such as IntelliSense, linting, and debugging." and "Source: Python (Extension)" with a "Select Python Interpreter" button.
- Bottom Bar:** Includes a search bar, taskbar icons, and system status indicators like battery level, temperature (39°C), and date/time (11-06-2021).

❖ Output :-

Registration Form

First name	Last name	Email	Gender
Dipen	Jakasaniya	@ dipen0316@gmail.c	Male
Contact	Address	Zip	
635****966	Surendranagar	380007	
College Name	Department		
Lalbhai Dalpatbhai College of Engineering	IT		

Submit form

Name : Dipen Jakasaniya
Email : dipen0316@gmail.com
Gender : male
Contact : 635****966
Address : Surendranagar,zip=380007
College : Information Technology,Lalbhai Dalpatbhai College of Engineering

:: Day -10 ::

❖ Day-10 : What we have learnt ?

- This was our last days of this amazing internship. In this session we learned about databases and its applications.
- Django has a inbuilt support of mainly five databases.
 - PostgreSQL
 - MariaDB
 - MySQL
 - SQLite
 - Oracle
- Then we learned how to connect MySQL and SQLite databases to our Django project and perform basic operations on databases with use of our Django application.
- Then we learned how make models and how to migrate into our connected databases.
- Then we learned how to perform CRUD operation separately. And saw how those work.
- Then we discussed some problems and errors which were coming to some student and solve them.
- Then we also discussed which are various platforms where we can deploy our Django project very easily.
- After that we jumped into Latest Technologies and discussed about them that which technologies are ruling market at present and also will rule in coming years.

❖ Github Task-10 Link :- https://github.com/dipen7520/Internship-Akash-Technolabs/tree/main/Day-10_Django_DB_CRUD/Django_DB_CRUD

❖ Task :- Django DB CRUD operation.

```
File Edit Selection View Go Run Terminal Help
models.py - Django_DB_CRUD - Visual Studio Code
EXPLORER settings.py models.py admin.py
OPEN EDITORS
DB_app > models.py > ...
1 from django.db import models
2
3 # Create your models here.
4 class Student(models.Model):
5     first_name = models.CharField(max_length=40)
6     last_name = models.CharField(max_length=40)
7     address = models.CharField(max_length=100)
8     enrollment_num = models.IntegerField()
9
10    def __str__(self):
11        return self.first_name
12
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS D:\Github\Internship-Akash-Technolabs\Day-10_Django_DB_CRUD\ Django_DB_CRUD>
Ln 12, Col 1 Spaces: 4 UTF-8 CRLF Python
Python 3.8.5 32-bit 0 0 0
Type here to search
Windows Taskbar: File Explorer, Edge, File Manager, Mail, YouTube, Maps, News, Translate, Hayley - Home Person, Sility - Material Des...
39°C Mostly sunny 21:45
11-06-2021 28
```

❖ Output :-

● Create DB Table :-

Create
Student DB

Add student | Django site admin

127.0.0.1:8000/admin/DB_app/student/add/

Django administration

Home > Db_App > Students > Add student

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

DB_APP

Students + Add

Add student

First name: Dipen

Last name: Patel

Address: 203 B Block LDCE

Enrollment num: 0116033

● Add Student :-

Add Dhruvi in
Student DB

The screenshot shows a dark-themed web application for managing student data. At the top right is a button labeled "ADD STUDENT +". Below it, a green header bar displays a success message: "The student "Dhruvi" was added successfully." A red arrow points from this message to an oval containing the text "Add Dhruvi in Student DB". The main content area is titled "Select student to change" and includes a search bar with dropdown options "Action: —" and "Go", and a count "0 of 2 selected". A list of students is shown with checkboxes: "STUDENT" (unchecked), "Dhruvi" (unchecked), and "Dipen" (unchecked). Below the list, it says "2 students".

Update Student Details :-

Update
Dhruvi Details

The screenshot shows a dark-themed web application for managing student data. At the top right are links: "WELCOME, CRUD", "VIEW SITE / CHANGE PASSWORD", and "LOG OUT". Below it, a green header bar displays a success message: "The student "Dhruvi" was changed successfully. You may edit it again below." A red arrow points from this message to an oval containing the text "Update Dhruvi Details". The main content area is titled "Change student" and shows a form for editing student details. The student is identified as "Dhruvi". The form fields are: "First name:" (Dhruvi), "Last name:" (Patel), "Address:" (Methan), and "Enrollment num:" (1800222). At the bottom are three buttons: "Delete" (red), "Save and add another" (blue), "Save and continue editing" (blue), and "SAVE" (blue).

● Delete Student details :-

The screenshot shows a user interface for managing student data. At the top right, there are links for "WELCOME, CRUD. VIEW SITE / CHANGE PASSWORD / LOG OUT". A green success message box contains the text "The student 'Dhruvi' was deleted successfully." A red arrow points from this message to an oval-shaped callout below. The callout contains the text "Delete Dhruvi from DB". The main content area has a dark background. It includes a "Select student to change" dropdown, an "Action:" dropdown set to "—" with a dropdown arrow, a "6" button, and "0 of 1 selected" text. Below this, there is a list titled "STUDENT" with one item: "Dipen". At the bottom left, it says "1 student". On the right side, there is a "ADD STUDENT +" button.

Thank You!!!