Day 5:-

What We havelearned ? :

- 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).

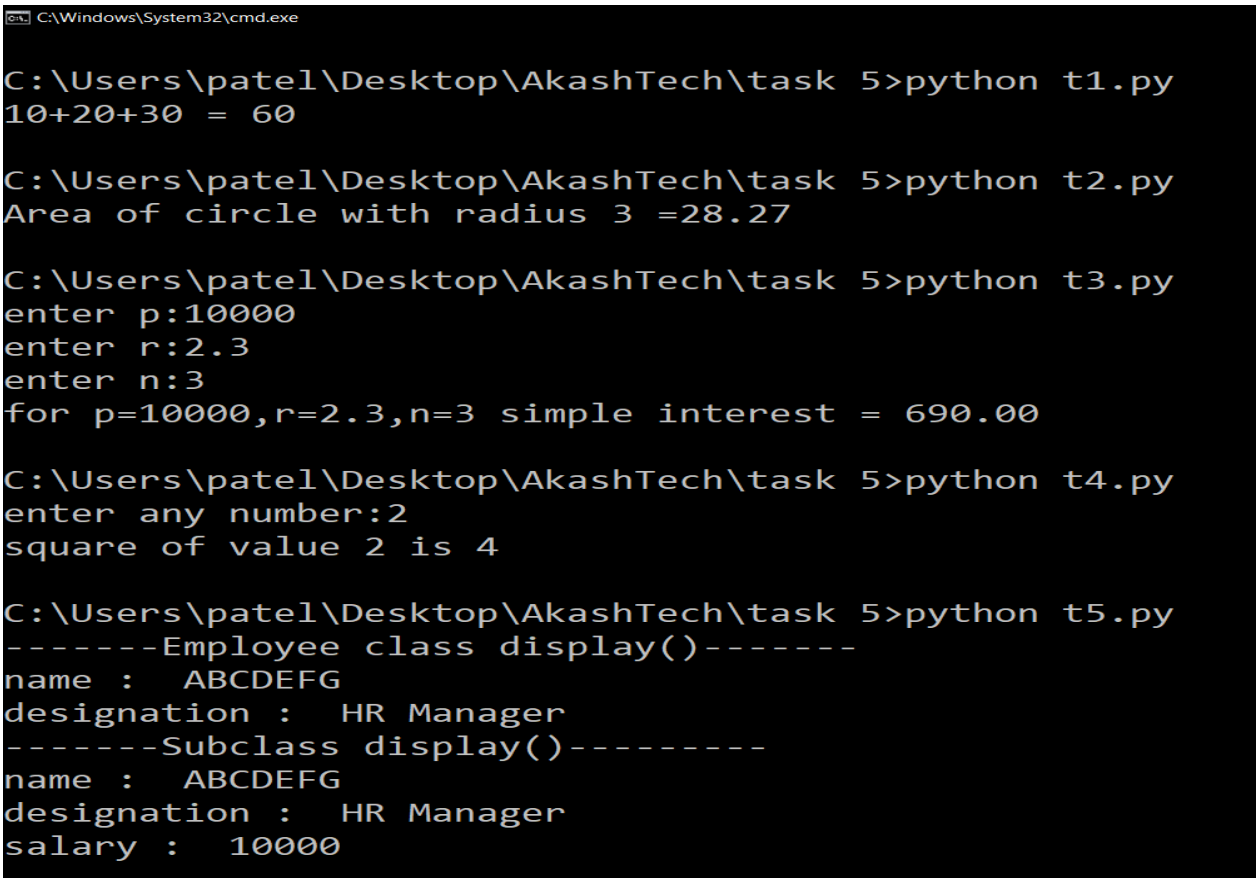
  Syntax: **class Subclass(Superclass):**

  #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.

Task :We are given several task based on class and inheritance here are their output

Link : https://github.com/prakharninja0927/akash-internship-tasks



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

C:\Users\patel\Desktop\AkashTech\task 5>python t6.py
enter length:12
enter width:21
Area of rectangle with length=12 and width =21 is 252

C:\Users\patel\Desktop\AkashTech\task 5>python t7.py
enter length:2
Area of square with length = 2 is 4

C:\Users\patel\Desktop\AkashTech\task 5>python t8.py
----Publisher display()----
Name :  John Carter
----Book display()----
Name :  John Carter
Pages: 200
----Tape display()----
Name :  John Carter
Pages: 200
time :3 hrs

C:\Users\patel\Desktop\AkashTech\task 5>python t9.py
Scheme id      :  1
Scheme name    :  ABC
Outgoing rate  :  20.4
Message Charge :  10000
Customer id :  10
Customer name :  PQR
Customer mobile :  1234569878

C:\Users\patel\Desktop\AkashTech\task 5>python t10.py
enter a: 12
enter b: 21
230
12 + 21 = 33
12 - 21 = -9
12 * 21 = 252
```

Day 6:-

What We have learned?

- 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 providedinbuilt by Django one by one .And learned Django project life cycle.
- We run program of Django in VS Code as well as Pycharm.