ACM SIG PYTHON TASKS

1. Origin of Python

Introduction to Python and what is a Python
What can we do by using Python
Features and versions of Python
Different languages used to develop Python
Interactive mode and Script mode
Interpreter vs Compiler
Scripting vs Programming Languages
Reasons to learn or work Python
Python Indentation
Comments and Quotations
Python Identifiers and Keywords

Variables
a. Assigning values to variables in different ways
b. Print(), type() and id()

Reading data from user
Working with input function
Python data types
Type conversions and eval()

2. Data Structure

- **a.** Different ways to create a string
- **b.** String indexing and string slicing
- **c.** string concatenation and string multiplication
- **d.** reverse(),replace() and sort()
- **e.** string immutable

3. List Data Structure

- **a.** different ways to create a list
- **b.** list indexing and list slicing
- **c.** remove, pop and clear
- **d.** python insert, append and extend

4. Tuple, Set, Dictionary

- **a.** creating a tuple in different ways
- **b.** Creating and working with set data structure in different ways
- **c.** Creating and working with dictionary data structure in different ways

5. Operators

6. Python Functions

- **a.** Defining functions and working with functions
- **b.** Using def keyword for functions
- **c.** Formal arguments and actual argument
- **d.** Lambda Functions

7. Control Statements and looping(For loop, While loop)

8. File Handling

a. Creating a file in a directory
b. Open the file in the python
c. Modes of operations

9. OOPS Concepts

a. Class and object
b. Abstraction
c. Inheritance
d. Polymorphism
e. Encapsulation
f. Constructor
g. Method overloading and overriding

10. Modules

11. Exception Handling in Python

PROJECT

12. Introduction to Django framework

a. Introduction to Django framework

b. Creating a project and application

c. Urls, models, templates and views files

d. Introduction to web development