

ASSIGNMENT-2

Q1. How do you comment code in Python? What are the different types of comments?

Ans: There are three types of comments:

Single line comment: Starts with the hashtag symbol (#) with no white spaces and lasts till the end of the line.

```
[1]: #Assignment-2
    print('Hello')

Hello

[ ]: |
```

Multi-line Comments: Multiple hashtags (#) to write multiline comments in Python.

```
[2]: #Assignment-2
    #Hello world program
    #and op will be hello
    print('Hello')

Hello

[ ]: |
```

Docstring comment: The string literals with triple quotes that are appeared right after the function.

Q2. What are variables in Python? How do you declare and assign values to variables?

Ans: A variable is a string of characters and numbers associated with a piece of information. It is denoted by '='.

String:

```
[3]: str="Hello I am coding on pw skills"

[4]: str

[4]: 'Hello I am coding on pw skills'

[8]: print(len(str))

30

[9]: str[3]

[9]: 'l'
```

List:

```
[10]: l=['3','56','prachiti',(4+7j)]
[11]: l
[11]: ['3', '56', 'prachiti', (4+7j)]
[12]: l.append(6)
[13]: l
[13]: ['3', '56', 'prachiti', (4+7j), 6]
[14]: l[-3]
[14]: 'prachiti'
```

Tuple:

```
[15]: t=(4,6,7,4,5,6,)
[16]: t
[16]: (4, 6, 7, 4, 5, 6)
[18]: type(t)
[18]: tuple
[19]: t[4]
[19]: 5
```

Q3. How do you convert one data type to another in Python?

Ans:

```
[29]: int=23
      float=5.88
      newno=int+float
      print("Value:",newno)
      print("Data Type:",type(newno))

Value: 28.88
Data Type: <class 'float'>
```

Q4. How do you write and execute a Python script from the command line?

Ans:

```
Command Prompt - python  x  +  v
Microsoft Windows [Version 10.0.22621.2134]
(c) Microsoft Corporation. All rights reserved.

C:\Users\anush>python
Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep  5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print("Hello, World!")
Hello, World!
>>> |
```

Q5. Given a list `my_list = [1, 2, 3, 4, 5]`, write the code to slice the list and obtain the sub-list `[2, 3]`.

Ans:

```
[1]: my_list=[1,2,3,4,5]
[2]: my_list
[2]: [1, 2, 3, 4, 5]
[4]: my_list[0:2]
[4]: [1, 2]
[ ]:
```

Q6. What is a complex number in mathematics, and how is it represented in Python?

Ans: Complex Number: The complex data type in python consists of two values, the first one is the real part of the complex number, and the second one is the imaginary part of the complex number.

```
[5]: a=4+7j
[6]: type(a)
[6]: complex
[7]: a.real
[7]: 4.0
[8]: a.imag
[8]: 7.0
```

Q7. What is the correct way to declare a variable named `age` and assign the value `25` to it?

Ans:

```
[9]: age=int(25)
[10]: age
[10]: 25
[ ]:
```

Q8. Declare a variable named price and assign the value 9.99 to it. What data type does this variable belong to?

Ans:

```
[11]: price=9.99
[12]: price
[12]: 9.99
[13]: type(price)
[13]: float
```

Q9. Create a variable named name and assign your full name to it as a string. How would you print the value of this variable?

Ans:

```
[14]: name="Prachiti Adam"
[15]: name
[15]: 'Prachiti Adam'
[16]: print(name)
      Prachiti Adam
[ ]:
```

Q10. Given the string "Hello, World!", extract the substring "World".

Ans:

```
[17]: str="Hello, World!"
[18]: str
[18]: 'Hello, World!'
[20]: str[6:12]
[20]: ' World'
```

Q11. Create a variable named "is_student" and assign it a boolean value indicating whether you are currently a student or not.

Ans:

```
[21]: is_student=True
```

```
[22]: is_student
```

```
[22]: True
```

```
[ ]:
```

