

ASSIGNMENT 2

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

In Python, you can comment code using the '#' symbol for single-line comments and triple quotes (""") for multi-line comments. Single-line comments start with '#' and continue to the end of the line. Multi-line comments are enclosed between triple quotes (""") and can span multiple lines.

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

Variables in Python are used to store data values. To declare and assign values to variables in Python:

1. Declaration: Variables are declared by simply assigning a value to them.
2. Assignment: Values are assigned using the '=' operator.

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

Implicit Conversion: Python automatically converts data types in certain situations, such as integer to float during arithmetic operations.

Explicit Conversion:

int(): Convert to integer.

float(): Convert to floating-point number.

str(): Convert to string.

list(): Convert to list.

tuple(): Convert to tuple.

dict(): Convert to dictionary.

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

To write and execute a Python script from the command line:

```
python myscript.py
```

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].

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

```
sub_list = my_list[1:3]
```

```
print(sub_list)
```

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

In Python, complex numbers are represented using the `complex()` function or by directly specifying the real and imaginary parts using the format `a + bj`, where 'a' represents the real part, 'b' represents the imaginary part, and 'j' represents the imaginary unit.

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

```
age = 25
```

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

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?

```
name = "Anshu Bhatia"
```

```
print(name)
```

```
print("My name is:", name)
```

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

```
s = "Hello, World!"
```

```
substring = s[7:12]
```

```
print(substring)
```

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

```
is_student = True # If you are currently a student
```

```
# or
```

```
is_student = False # If you are not currently a student
```