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

Answer: in python for comment a specific line we use #,"," ","" ""

- 1. For single line comment we can use #,' '," "
- 2. For multiple line comments we use "" ""
- Example: # hello this is python programing "' hello
 This is python
 Programming "'

```
# hello skillwallah
'hello skill wallah'
" hello skill wallah "
'''hello
skill
wallah'''
```

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

Answer: in python varibles used for store data and refer the values , variable acts like a container

In variable we can store list, tuples, set...

```
Example = a = 25 (in this example (a) is variable which stores the value 25)
List = [1,5,4,9,2165]
```

```
l = [7,8,9,5,4,6,3,1,2]
print(l)

str1 = "this is my first string"
print(type(str1))
print(str1)

str2 = '''first line
second line
third line'''
print(str2)
```

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

Answer:

In Python, you can convert one data type to another using type conversion functions or techniques. Here are some commonly used methods

```
x = 10
y = 4.5

x_float = float(x) # Converts x to a float
y_int = int(y) # Converts y to an integer
```

```
print(x_float)  # Output: 10.0
print(y_int)  # Output: 4
```

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

Answer:

To write and execute a Python script from the command line, you can follow these steps:

- 1) First write a python code in note pad or python idle
- 2) Save this code in .py format in desktop
- 3) Open the command prompt type

Cd desktop

Python filename.py

Example:

print("Hello, World!")

cd Desktop

python print.py

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].

Answer:

To obtain the sub-list [2, 3] from the given list list = [1,2,3,4,5], you can use slicing in Python.

```
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?

Answer:

In mathematics, a complex number is a number that comprises both a real part and an imaginary part. It is written in the form a + bi where a represents the real part, b represents the imaginary part, and I represents the imaginary unit

```
z2 = -1.5 + 0.5j
z3 = 2j
type(z1)
```

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

To declare a variable named age and assign the value 25 to it in Python, you would use the following syntax:

```
age = 25
print(age)
output: 25
```

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

Answer:

To declare a variable named price and assign the value 9.99 to it in Python

```
price = 9.99
type(price)
#output = folat
```

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?

Answer:

```
name = "pratish chandu khurdamoje "
print(name)
#output : pratish chandu khurdamoje
```

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

Answer:

```
name = "Hello,World"
name[6:]
#output : world
```

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

Answer:

```
is_student = True
type(is_student)
```

#output = boolean