Q1. Why do we call Python as a general purpose and high-level programming language?

Ans: Python is call high-level programming language, because in python we are writing everything in human readable form.

Q2. Why is Python called a dynamically typed language?

Ans: Python is a dynamically typed language. It means that the type of the variable could be changed dynamically by the program when in execution, without the need of re-declaration of the variable.

Q3. List some pros and cons of Python programming language?

Pros:

1. Python is easy to learn, understand and code, Beginner Friendly.

2. Extensive Library

3. Highly Scalable

4. Large Community

Cons:

1. Slower than Compiled Languages

2. Python is not 100% secure, we need to take the necessary step to ensure the code's security.

Q4. In what all domains can we use Python?

And: Python is used in various domain, like Web Development, Mobile App Development, Machine Learning and Artificial intelligence, Data Analytics and Big Data Engineering.
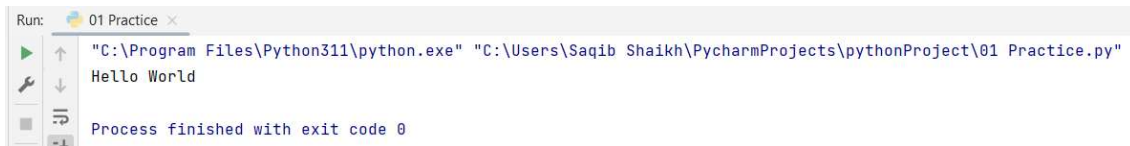
Q5. What are variable and how can we declare them?

Ans: Variable is a name given to a specific memory location, to declare the variable in python we will use assignment operator, whatever will be written on the left of assignment operator is variable name and on the right side is a value of variable. This is simple variable declaration and assignment. There are few rule to define the variable.

1.) any variable name should start with alphabet.

2.) We cannot use any special symbol in variable.

3.) We can only use "_" as a part of variable name.

4.) Even our variable name can start from "_".
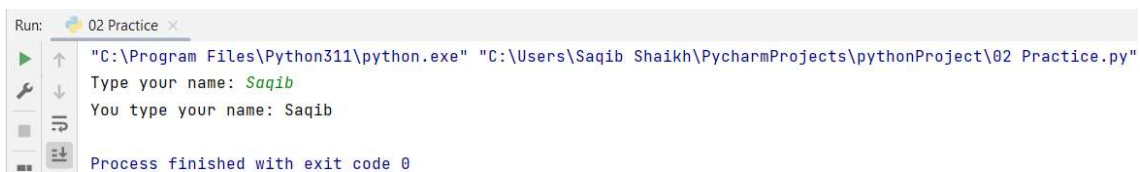
Example:

```
var1 = "Hello World "
print(var1)
```

Q6. How can we take an input from the user in Python?

Ans: We use input () function to take input form the user in Python.

Example:

```
Name = input("Type your name: ")
print("You type your name:",Name)
```

Q7. What is the default datatype of the value that has been taken as an input using input () function?

Ans: The default datatype of the value that has been taken as an input using input () function is "STRING"

Example:

```
var1 = ("123")
print(type(var1))
```

Q8. What is type casting?

And: Typecasting is the method to convert the variable type into a certain data type.
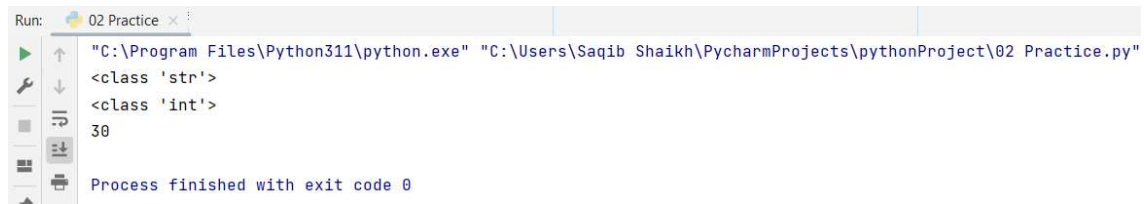
Exaple:

```
num = '10'
# check and print type num variable
print(type(num))

# convert the num into string
converted_num = int(num)

# print type of converted_num
print(type(converted_num))

# We can check by doing some mathematical operations
print(converted_num + 20)
```
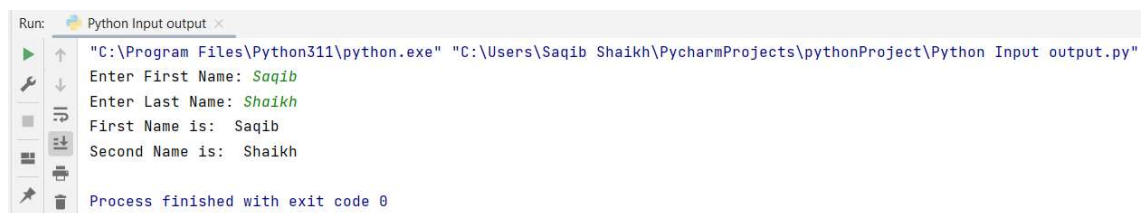
```
Run:      02 Practice ×
  ▶   ↑   "C:\Program Files\Python311\python.exe" "C:\Users\Saqib Shaikh\PycharmProjects\pythonProject\02 Practice.py"
  🔧  ↓   <class 'str'>
  ■   ⥥   <class 'int'>
          30
  ⬛  ⬧
      🖶
  ▲       Process finished with exit code 0
```

Q9. Can we take more than one input from the user using single input () function? If yes, how? If no, why?

Ans: Yes, we can take more than one input form the user using single input () function, the function generally breaks the given input by the specified separator and in case the separator is not provided then any white space is considered as a separator.

Example:

```python
x, y = input("Enter First Name: "), input("Enter Last Name: ")
print("First Name is: ", x)
print("Second Name is: ", y)
```

```
Run:      Python Input output ×
  ▶   ↑   "C:\Program Files\Python311\python.exe" "C:\Users\Saqib Shaikh\PycharmProjects\pythonProject\Python Input output.py"
  🔧  ↓   Enter First Name: Saqib
          Enter Last Name: Shaikh
  ■   ⥥   First Name is:  Saqib
      ⬧   Second Name is:  Shaikh
  ⬛
      🖶
  📌  🗑   Process finished with exit code 0
```

Q10. What are keywords?

And: Keywords are special reserved words that have specific meaning and purpose, by default available in python.

Example: for, if, elif, else, def, del, and, break, class, in, or, while and is.

Q11. Can we use keywords as a variable? Support your answer with reason.

Ans: Keywords are some predefined and reserved words in python, the reason why we cannot use keywords as variables.

Q12. What is indentation? What's the use of indentation in Python?

And: Indentation refers to the spaces at the beginning of a code line, Python uses indentation to indicate a block of code.

```python
def avg_of_two_nums( a , b):
    count = 2
    print("First Value : ", a)
    print("Last Value : ", b)
    avg_result = (a+b)/2
    return avg_result
```
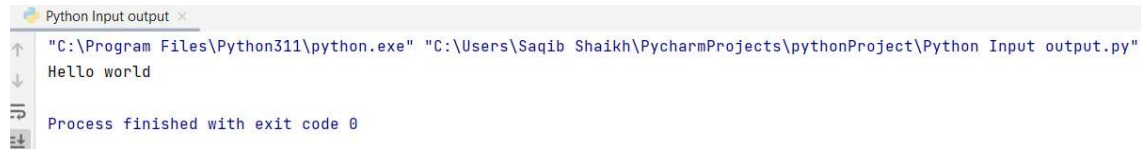
Q13. How can we throw some output in Python?

Ans: To throw the output in Python we use print statement.

Example:

Print("Hello World")

Output:

Q14. What are operators in Python?

And: Operators are special symbols in Python that carry out arithmetic or logical computation.

Q15. What is difference between / and // operators?

Ans: "/ " is the division operator, results the floating point value. " // " is a floor division operator, rounds down the answer and returns a whole number.

Q16. Write a code that gives following as an output.

iNeuroniNeuroniNeuroniNeuron

Ans: var1 = iNeuron

    print (4*"var1")

Q17. Write a code to take a number as an input from the user and check if the number is odd or even.

Ans:

num = int(input("Enter any number to test whether it is Even or Odd: "))

if (num % 2) ==0:

   print("{0} is an Even Number".format(num))

else:

   print("{0} is an Odd Number".format(num))

OUTPUT

Enter any number to test whether it is Even or Odd: 887

887 is an Odd Number

Enter any number to test whether it is Even or Odd: 624

624 is an Even Number

Q18. What are Boolean operator?

Ans: Boolean Operators are logical data type, which may evaluate to true or false. It takes Boolean input and return Boolean results.

Q19. What will the output of the following?

1 or 0

0 and 0

True and False and True

1 or 0 or 0

If we print above mentioned data, we will get the following output.

print("if 1 or 0")

print("else:0 and 0")

print("True and False and True")

print("1 or 0 or 0")

Output:

if 1 or 0

else:0 and 0

True and False and True

1 or 0 or 0

Q20. What are conditional statements in Python?

Ans: Conditional statements are used to handle conditions and decision making in python program, if else and elif are the keyword used in conditional statement.

Q21. What is use of 'if', 'elif' and 'else' keywords?

Ans: 'if', 'elif' and 'else' keywords are used to create a conditional statement.

Q22. Write a code to take the age of person as an input and if age >= 18 display "I can vote". If age is < 18 display "I can't vote".

Ans: # Program to take age of person, and declaring eligibility for voting

```
Age = int(input("Enter Your Age "))
print("Your Age is =", Age)
if Age >= 18:
    print("I can vote.")
else :
    print("I am under 18, I can't vote.")
```

Q23. Write a code that displays the sum of all the even numbers from the given list.
NumList = [12, 75, 150, 180, 145, 525, 50]

Ans: Program to calculate the sum of all even number form the given list

```
NumList = [12, 75, 150, 180, 145, 525, 50]
Even_sum = 0
for number in NumList:
    if number %2 == 0:
        Even_sum = Even_sum + number
print("The sum of Even Numbers is",Even_sum)
```

Output: The sum of Even Numbers is 392

Q24. Write a code to take 3 numbers as an input from the user and display the greatest no as output.

Ans: # code to take 3 numbers as an input from the user and display the greatest number.

```
a = input("Enter 1st Number: ")
b = input("Enter 2nd Number: ")
c = input("Enter 3rd Number: ")
#a = float(a)
#b = float(b)
```

```python
#c = float(c)

if a>b and a>c:
    print("The greatest number is: ",a)
elif b>a and b>c:
    print("The greatest number is: ",b)
elif c>a and c>b:
    print("The greatest number is: ",c)
else:
    print("The numbers provided are equal")
```

Q25. Write a program to display only those numbers from a list that satisfy the following conditions

The number must be divisible by five

If the number is greater than 150, then skip it and move to the next number

If the number is greater than 500, then stop the loop

numbers = [12, 75, 150, 180, 145, 525, 50]

Ans:

```python
NumList = [12, 75, 150, 180, 145, 525, 50]
 for n in NumList:
    if n>500:
        break;
    if n%5 == 0 and n <=150:
        print(n," ");
```

Output:

75

150

145