## Assignment Part-1

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

Python ia programming language that can write in a human readable form.

Q2. Why is Python called a dynamically typed language?

In Python, we don’t need to declare the type of variable. It stores the value of a variable to some memory location and then binds that variable name to that memory container. And makes the contents accessible through that variable name. It also takes care of memory managemant

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

|  |  |
| --- | --- |
| **Pros** | **Cons** |
| Easy to Read, Learn and Write | Slow Speed |
| Improved Productivity | Not Memory Efficient |
| Interpreted Language | Weak in Mobile Computing |
| Dynamically Typed | Database Access |
| Free and Open-Source | Runtime Errors |
| Vast Libraries Support |  |
| Portability |  |

Q4. In what all domains can we use Python?

1. Web development

2. Data Science

3. OS development

4. Scientific programming

5. Gaming

Q5. What are variable and how can we declare them?

Variable is a nmae given to a specific memory location.

We don’t declare variables, simply assign them.

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

By the keyword input()

var = input("Enter name: ")

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

By default, the input() function will convert all the information it receives into a string.

Q8. What is type casting?

The conversion of one data type into the other data type is known as type casting in python or type conversion in python. Python supports a wide variety of functions or methods like: int(), float(), str(), ord(), hex(), oct(), tuple(), set(), list(),dict(), etc. for the type casting in python.

There are two varieties of typecasting in python namely -

**Explicit Conversion**(Explicit type casting in python), and

(Implicit type casting in python).

The conversi**Implicit Conversion**on of one data type into another, done via user intervention or manually as per the requirement, is known as explicit type conversion. In Implicit type conversion, Python automatically converts one data type to another data type without any user's need.

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

Using split() Method

The split() method is useful for getting multiple inputs from users. The syntax is given below.

input().split(separator,maxsplit)

separator: This is a delimiter. The string splits at this specified separator. If is not provided, then any white space is a separator.

maxsplit: It is a number, which tells us to split the string into a maximum of provided number of times. If it is not provided then the default is -1 which means there is no limit.

Eg:

x,y,z = input("Enter variables: ").split(",",3)

print(x,y,z)

Enter variables: how,are,you

how are you

Q10. What are keywords?

Python keywords are reserved words. They are used by python interpreters to understand the program. Keywords define the structure of programs.

Value Keywords: True, False, None.

Operator Keywords: and, or, not, in, is.

Control Flow Keywords: if, elif, else.

Iteration Keywords: for, while, break, continue, else.

Structure Keywords: def, class, with, as, pass, lambda.

Returning Keywords: return, yield.

Import Keywords: import, from, as.

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

No, Keywords in Python are reserved words that can not be used as a variable name, unction name, or any other identifier.

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

Python indentation is a way of telling the Python interpreter that a series of statements belong to a particular block of code. Python uses space/tab as indentation to indicate the same to the compiler.All the statements with the same distance (space) to the right, belong to the same block.

Q13. How can we throw some output in Python?

Python uses the print() function to output data.

Q14. What are operators in Python?

Python Operator falls into 7 categories:

Python Arithmetic Operator

Python Relational Operator

Python Assignment Operator

Python Logical Operator

Python Membership Operator

Python Identity Operator

Python Bitwise Operator

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

Normal division (/) returns a fractional number, whereas floor division (//) truncates the decimal part and returns the quotient.

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

```

iNeuroniNeuroniNeuroniNeuron

```

print(“iNeuroniNeuroniNeuroniNeuron”)

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

num = input(“Enter a number”)

if num%2 ==0:

print(“Number is even”)

else:

print(“Number is odd”)

Q18. What are boolean operator?

The logical operators and, or and not are also referred to as boolean operators.

The Python Boolean type has only two possible values: True and False.

The type() of both False and True is bool. The type bool is built in, meaning it’s always available in Python and doesn’t need to be imported.

Q19. What will the output of the following?

```

1 or 0 - True or False

0 and 0 – False and False

True and False and True - True and False

1 or 0 or 0 - True or False

```

Q20. What are conditional statements in Python?

Python has 3 key Conditional Statements:

if statement

if-else statement

if-elif-else ladder

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

if…elif…else are conditional statements that provide you with the decision making that is required when you want to execute code based on a particular condition.

The if…elif…else statement helps automate that decision making process.

The if condition is considered the simplest of the three and makes a decision based on whether the condition is true or not. If the condition is true, it prints out the indented expression. If the condition is false, it skips printing the indented expression.

The if-else condition adds an additional step in the decision-making process compared to the simple if statement. The beginning of an if-else statement operates similar to a simple if statement; however, if the condition is false, instead of printing nothing,the indented expression under else will be printed.

The most complex of these conditions is the if-elif-else condition. When you run into a situation where you have several conditions, you can place as many elif conditions as necessary between the if condition and the else condition.

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".

age= input(“Enter age of a person”)

if age>18:

print(“I can vote”)

elif age<18:

print(“I can’t vote”)

Q23. Write a code that displays the sum of all the even numbers from the given list.

```

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

```

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

sum=0

for i in numbers:

if i%2==0:

sum= sum+i

print("Sum of numbers ", sum)

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

num1,num2,num3 = input("Enter three numbers: ").split(",",3)

if (num1 >= num2) and (num1 >= num3):

largest = num1

elif (num2 >= num1) and (num2 >= num3):

largest = num2

else:

largest = num3

print("The largest number is", largest)

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]

```

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

for i in numbers:

if i > 500:

break

elif i > 150:

continue

# check if number is divisible by 5

elif i % 5 == 0:

print(i)