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

**Ans: -** Python is a general-purpose language, meaning it can be used to create a variety of different programs and isn't specialized for any specific problems. This versatility, along with its beginner-friendliness, has made it one of the most-used programming languages today.

Python is a high-level programming language because the syntax is similar to the English language which makes it more readable and easier to understand. Unlike the low-level Machine & Assembly languages which were hard to understand & interpret.

**Q2.** Why is Python called a dynamically typed language?

**Ans: -** Python is called a dynamically typed language because the type of variable need not to be declared at beginning. It doesn’t know about the type of the variable until the code is run. So declaration is of no use. What it does is, it stores that value at some memory location and then binds that variable name to that memory container. And makes the contents of the container accessible through that variable name. So, the data type does not matter. As it will get to know the type of the value at run-time.

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

**Ans: -**

|  |  |
| --- | --- |
| Advantages | Disadvantages |
| Easy to read Learn and write | Slower than Compiled Languages. |
| Interpreted Language | Not Memory Efficient. |
| Dynamically Typed Language | Not Efficient in Mobile Computing. |
| Vast Library Support. |  |

**Q4.** In what all domains can we use Python?

**Ans: -** We can use Python in many domains such as Machine Leaning & AI, Data Analytics & Data Visualization, Data Engineering, Web-Development etc.

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

**Ans: -** Variables are containers for storing data values.

Example: - name = “Rajiv” // Here name is variable having string value.

N = 5 // Here N is variable storing Integer value.

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

**Ans: -** We can use the input() method to take user input in Python.

Eg. name = input(“Enter Your Name”)

print(name)

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

**Ans: -** Default return type of input() method is String.

**Q8.** What is type casting?

**Ans: -** Type Casting is the method to convert the variable data into a certain data type to the operation required to be performed by users.

**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 multiple input using a single input() function.

Example:- name, age = input(“Enter Name & Age”).split()

In the above example we have to give Name & age with a space in between it will take the input and split it into the respective variables i.e., name and age.

**Q10.** What are keywords?

**Ans: -** Keywords are reserved words in a programming language which have a specific meaning and purpose.

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

**Ans: -** We can’t use keywords as variable because they will cause error.

Example if we use ‘while’ as a variable name it will throw error as it already has a predefined meaning in the language.

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

**Ans: -** Indentation refers to the spaces at the beginning of a code line.

Where in other programming languages the indentation in code is for readability only, the indentation in Python is very important. Python uses indentation to indicate a block of code.

**Q13.** How can we throw some output in Python?

**Ans: -** We can throw some output in Python using the print() function.

Example **print(“This is a test.”)**

The above code will print “**This is a test**” in the terminal.

**Q14.** What are operators in Python?

**Ans: -** Operators are used to perform operations on variables and values.

In the example below, we use the + operator to add together two values

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

**Ans: - /** this operator is used for division. // operator is used for floor division.

Example

X=29

Y=5

print(X/Y) 🡪 **Here answer will be 5.8**

print(X//Y) 🡪 **Here answer will be 5**

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

**Ans: - print("iNeuron"\*3) Code is in repository.**

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

**Ans: -**  Code is in repository.

**Q18.** What are Boolean operator?

**Ans: -** Boolean operators are operator having return type as true or false. Comparison Operators ,Logical operators, Membership operators are Boolean operators.

**Q19.** What will the output of the following?

1 or 0 -> Output will be 1

0 and 0 -> Output will be 0.

True and False and True -> Output will be False

1 or 0 or 0 -> Output will be 1

```

**Q20.** What are conditional statements in Python?

**Ans: -** Conditional statements in Python refers to if , if – else, if – elif – else ladder statements.

These are used when we need to execute a particular piece of code when a certain condition is met.

Example Grade system of schools or colleges.

if marks >= 0 and marks < 40 :

print(“Fail”) #For marks less than 40 it will print Fail.

elif marks >=40 and marks <60 :

print(“Grade C”) #For marks between 40-60 it will display Grade C.

elif marks >=60 and marks <80 :

print(“Grade B”) #For marks between 60 – 80 it will print Grade B.

elif marks >= 80 and marks <=100

print(“Grade A”) #For marks between 80 to 100 Grade A.

else

print(“Invalid Marks”) # For situations like marks greater than 100 & <0

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

**Ans: -** It’s used when we want to execute code based on different conditions.

For example a students Grade is dependent on his marks such as marks <40 then fail , marks>=40 and <60 Grade C , marks>=60 and marks<80 then Grade B and marks>=80 and marks<=100 then Grade A. In these kind of scenarios if-elseif-else conditions are used.

**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".

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

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

```

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

**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]

```

**Q26.** What is a string? How can we declare string in Python?

**Ans: -** Strings in python are surrounded by either single quotation marks, or double quotation marks. Example str1 = 'iNeuron' is the same as str2 = "I like coding.".

**Q27.** How can we access the string using its index?

**Ans: -** Example str1 = “I write code.” If we print(str1[2]) then the 3rd character of the string will be printed i.e Output = w. Similarly as array we can access all characters of string.

**Q28.** Write a code to get the desired output of the following

**Ans: -** string = "Big Data iNeuron" #Desired\_output = "iNeuron"

print(string[9:])

**Q29.** Write a code to get the desired output of the following

**Ans: -** string = "Big Data iNeuron" #Desired\_output = "norueNi"

**print(string[-7:][::-1])**

**Q30.** Reverse the string given in the above question.

**Ans:-** print(string[::-1])

**Q31.** How can you delete entire string? (Confused!!!)

**Q32.** What is escape sequence?

**Ans:-** Escape sequences allow us to include special characters in strings. To do this we can simply add a backslash (\) before the character which we want to escape.

Example:- string = “I want to be a \”Data Engineer\”” this will print the entire string with the Data Engineer in double quotes.

Other escape characters are \n for new line, \t for tab etc.

**Q33.** print("'iNeuron's Big Data Course'")

**Q34.** What is a list in Python?

**Ans:-** Lists are used to store multiple data in a single variable. Python list can contain heterogenous data.

**Q35.** How can you create a list in Python?

**Ans:-** Example mylist = [1,2,3,”Apple”,”Carrot”,1.5]

**Q36.** How can you access a list element in Python?

**Ans:-** mylist = [1,2,3,”Apple”,”Carrot”,1.5]

print(mylist[1]) #This statement will print the second element in the list i.e 2.