**Assignment-1**

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

Ans) Python is a general-purpose language, because it's designed to be used in a range of applications, including data science, software and web development, automation, and generally getting stuff done.

When compiled, other languages turn into Assembly and run directly in the processor. Hence, being an interpreted language, which is not subject to the processor, makes Python a high-level programming language.

Q2. Why is Python called a dynamically typed language?

Ans) Python don't have any problem even if we don't declare the type of variable. It states the kind of variable in the runtime of the program. Python also take cares of the memory management which is crucial in programming. So, Python is a dynamically typed language.

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

Ans)

|  |  |
| --- | --- |
| **Pros** | **Cons** |
| Beginner-friendly | Issues with design |
| Large Community | Slower than compiled languages |
| Flexible and Extensible | Security |
| Extensive Libraries | Work Environment |
| Embeddable | High memory consumption |
| Highly Scalable | Dynamically-typed language |
| IoT Opportunities | Complex multithreading |
| Portable | Garbage collection leads to potential memory losses |

Q4. In what all domains can we use Python?

Ans)

1. **Web development**
2. **Data science**
3. **OS development**
4. **Scientific programming**
5. **Gaming**

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

Ans) Variables are containers for storing data values.

Python has no command for declaring a variable.  
 Thus, declaring a variable in Python is very simple.

1. Just name the variable.

2. Assign the required value to it.

3. The data type of the variable will be automatically determined from the value assigned, we need not define it explicitly.

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

Ans) a= input(‘enter the input’)

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

Ans) String

Q8. What is type casting?

Ans) Type Casting is the method to convert the variable data type into a certain data type in order to the operation required to be performed by users.

There can be two types of Type Casting in Python –

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

Ans) We can take more than one input from the user by using split()

input().split(separator, maxsplit)

a, b, c = input("Enter three values: ").split()

Q10. What are keywords?

Ans) Python keywords are special reserved words that have specific meanings and purposes and can't be used for anything but those specific purposes.Python has 33 keywords.

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

Ans) Keywords are some predefined and reserved words in python that have special meanings. Keywords are used to define the syntax of the coding. The keyword cannot be used as an identifier, function, and variable name.

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

Ans) Indentation refers to the spaces at the beginning of a code line. 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 print() statement.

Q14. What are operators in Python?

Ans)

In Python, operators are special symbols that designate that some sort of computation should be performed.Python divides the operators in the following groups:

* Arithmetic operators
* Assignment operators
* Comparison operators
* Logical operators
* Identity operators
* Membership operators
* Bitwise operators

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

Ans) /🡪 Divison

//🡪 Floor Divison

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

# ```

# iNeuroniNeuroniNeuroniNeuron

a='iNeuron'

b=a\*4

print(b)

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

num=int(input("enter number:"))

if num%2==0:

   print('Even')

else:

   print('Odd')

Q18. What are boolean operator?

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

Q19. What will the output of the following?

```

1 or 0 🡪 1

0 and 0 🡪 0

True and False and True🡪 False

1 or 0 or 0 🡪 1

Q20. What are conditional statements in Python?

Ans) A conditional statement as the name suggests itself, is **used to handle conditions in your program**. These statements guide the program while making decisions based on the conditions encountered by the program. Python has 3 key Conditional Statements that you should know: if statement. if-else statement. Else statement.

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

Ans)

1.Python uses the if keyword to implement decision control.

2. Along with the if statement, the else condition can be optionally used to define an alternate block of statements to be executed if the boolean expression in the if condition evaluates to False.

3. Use the elif condition is used to include multiple conditional expressions after the if condition or between the if and else conditions.

# 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= int(input("enter age of a person:"))

if age>=18:

    print("I can vote")

else:

    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]

ele=0

total=0

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

for a[ele] in a:

    if (a[ele]%2)==0:

        total=total+a[ele]

        ele+=1

print(total)

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

a=int(input())

b=int(input())

c=int(input())

if a>b and a>c:

    print("Largest number is:",a)

elif b>a and b>c:

    print("Largest number is:",b)

else:

    print("Largest number is:",c)

# 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]

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

b = []

for i in a:

    if i > 150:

        if i > 500:

            break

        continue

    if i % 5 == 0:

        b.append(i)

print(b)