### **Python**

1.What is the data type of the result in the following expression: 10 / 2?

* a. int  
  b. float  
  c. str  
  d. bool

2.Which data type is used to represent a sequence of characters in Python?

* a. int  
  b. float  
  c. str  
  d. list

3.What is the output of bool("False")?

* a. False  
  b. True  
  c. TypeError  
  d. None

4.In Python, which data type is used to store an ordered collection of elements with no duplicate values?

* a. tuple  
  b. list  
  c. set  
  d. dictionary

5.What is the result of the expression 3 \*\* 2?

* a. 5  
  b. 6  
  c. 9  
  d. 27

6.What does the % operator do in Python?

* a. Exponentiation  
  b. Floor division  
  c. Modulus  
  d. Multiplication

7.What is the result of the expression 5 // 2?

* a. 2.5  
  b. 2  
  c. 3  
  d. 2.0

8.In Python, how is a block of code inside an if statement defined?

* a. By indentation  
  b. By braces {}  
  c. By parentheses ()  
  d. By square brackets []

9.What is the purpose of the elif keyword in Python?

* a. It signifies the end of an if statement.  
  b. It is used to catch exceptions.  
  c. It is an abbreviation for "else if" and is used for multiple conditions.  
  d. It represents a loop in Python.

10.In a for loop in Python, what does the range(5) represent?

* a. The numbers 0 to 5 (inclusive)  
  b. The numbers 1 to 5 (inclusive)  
  c. The numbers 0 to 4 (inclusive)  
  d. The numbers 1 to 4 (inclusive)

11.What is the output of int("10")?

* a. 10  
  b. "10"  
  c. TypeError  
  d. None

12.Which data type is mutable (can be modified after creation) in Python?

* a. int  
  b. float  
  c. str  
  d. list

13.In Python, how do you check the type of a variable?

* a. typeof(var)  
  b. typeOf(var)  
  c. type(var)  
  d. var.type()

14.What is the result of the expression 5 != 5?

* a. True  
  b. False  
  c. Error  
  d. None

15.What is the purpose of the and operator in Python?

* a. Logical AND  
  b. Bitwise AND  
  c. Assignment AND  
  d. Concatenation

16.Which operator is used for string concatenation in Python?

* a. +  
  b. -  
  c. \*  
  d. /

17.What does the in operator do in Python?

* a. Membership test for lists and strings  
  b. Exponentiation  
  c. Bitwise AND  
  d. Modulus

18.In Python, what is the purpose of the else clause in an if statement?

* a. It is used for error handling.  
  b. It contains the main block of code.  
  c. It is executed when the if condition is True.  
  d. It is executed when the if condition is False.

19.How can you terminate a loop prematurely in Python?

* a. stop statement  
  b. end statement  
  c. break statement  
  d. terminate statement

20.What is the purpose of the pass statement in Python?

* a. It indicates the end of a code block.  
  b. It is a placeholder and does nothing.  
  c. It is used to define a function.  
  d. It is a comment.

21.What is the result of the expression 8 // 3?

* a. 2.67  
  b. 2.0  
  c. 2  
  d. 2.5

22.What is the purpose of the or operator in Python?

* a. Logical OR  
  b. Bitwise OR  
  c. Assignment OR  
  d. Concatenation

23.Which operator is used for exponentiation in Python?

* a. \*\*  
  b. ^  
  c. //  
  d. %

24.In Python, what is the purpose of the elif clause in an if statement?

* a. It is executed when the if condition is True.  
  b. It is used for error handling.  
  c. It is a short form of "else if" and is used for multiple conditions.  
  d. It contains the main block of code.

25.What is the output of the following code snippet?

num = 7

if num % 2 == 0:

print("Even")

elifnum % 3 == 0:

print("Divisible by 3")

else:

print("Odd")

* a. Even  
  b. Divisible by 3  
  c. Odd  
  d. None

num = 7

if num % 2 == 0:

print("Even")

elifnum % 3 == 0:

print("Divisible by 3")

else:

print("Odd")

Answers:

1. b. Float
2. c. Str
3. b. True
4. c. Set
5. c. 9
6. c. Modulus
7. b. 2
8. a. By indentation
9. c. It is an abbreviation for "else if" and is used for multiple conditions.
10. c. The numbers 0 to 4 (inclusive)
11. a. 10
12. d. List
13. c. type(var)
14. b. False
15. a. Logical AND
16. a. +
17. a. Membership test for lists and strings
18. d. It is executed when the if condition is False.
19. c. break statement
20. b. It is a placeholder and does nothing.
21. c. 2
22. a. Logical OR
23. a. \*\*
24. c. It is a short form of "else if" and is used for multiple conditions.
25. c. Odd

programs:

Task 1: Arithmetic Operators

Write a program that takes two numbers from the user and performs the following operations:

- Addition

- Subtraction

- Multiplication

- Division

Num1=1

Num2=2

Num=Num1+Num2

Print(Num)

Replace for subtraction with –

for multiplication with \*

for division with /

Task 2: Logical Operators

Write a program that asks the user for their age.

- If the age is less than 18, print "You are a minor."

- If the age is 18 or older, print "You are an adult."

Age=int(input(“enter your age”))

If age <18

Print ("You are a minor.")

Else

Print ("You are a minor.")

Task 3: Comparison Operators

Write a program that compares two strings entered by the user.

- If the strings are equal, print "Strings are equal."

- If not, print "Strings are not equal."

String1 = (“enter your string1”)

String2 = (“enter your string2”)

If string1 == string2

Print ("Strings are equal.")

Else

Print ("Strings are not equal.")

Task 4: While Loop

Write a program that uses a while loop to print the numbers from 1 to 5.

i=5

While i<=5:

Print(“i”)

i = +i

Task 5: For Loop

Write a program that uses a for loop to iterate over a list of fruits and print each fruit

Fruits = [“apple” , “banana” , “orange” , “sopata”]

For fruit in fruits:

Print (“fruit”)

Task 6: Lists

Create a list of numbers and perform the following operations:

- Add a new number to the list.

- Remove an existing number from the list.

number = [1,2,3,4,5,6,7,8]  
add\_number = 9  
number.append(add\_number)  
print (number)  
remove\_number = 9  
if remove\_number in number:  
 number.remove(remove\_number)  
 print (number)

Task 7: Dictionaries

Create a dictionary representing a person with attributes like name, age, and city.

- Print the person's information.

- Add a new attribute (e.g., occupation) to the dictionary.

person = {  
 "age" : 30 ,  
 "college" : "hyd",  
 "mobile" : 8888888888  
  
}  
print (person)  
person ["occupation"] = "associate software developer"  
print (person)

Bonus Task: Combine Control Statements and Operators

Write a program that asks the user to enter two numbers.

- If the sum of the numbers is greater than 10, print "Sum is greater than 10."

- If the sum is less than or equal to 10, print "Sum is less than or equal to 10."

mber1 = int(input("Enter the 1st number "))  
number2 = int(input("Enter the 2nd number "))  
  
sum = number1 + number2  
if sum > 10:  
 print("Sum is greater than 10.")  
else:  
 print("Sum is less than or equal to 10.")