1.What are the two values of the Boolean data type? How do you write them?

Ans- **The two types of Boolean data are True and False. This we use to check whether the condition is correct or not, it returns True else False.**

**E.g.- x=5; isnumeric(x); returns True; x= ‘a’; isnumeric(x); returns False**

2. What are the three different types of Boolean operators?

Ans: **The three types of Boolean operators are AND, OR NOT.**

3. Make a list of each Boolean operator's truth tables (i.e. every possible combination of Boolean values for the operator and what it evaluate ).

Ans: **AND**

|  |  |  |
| --- | --- | --- |
| A | B | A and B |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

**OR**

|  |  |  |
| --- | --- | --- |
| A | B | A or B |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

**NOT**

|  |  |
| --- | --- |
| A | not A |
| True | False |
| False | True |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5) **Ans: False**

not (5 > 4) **Ans: False**

(5 > 4) or (3 == 5) **Ans: True**

not ((5 > 4) or (3 == 5)) **Ans: False**

(True and True) and (True == False) **Ans: False**

(not False) or (not True) **Ans: True**

5. What are the six comparison operators?

Ans: **1. Greater than < 2. Smaller than >, 3. Greater than and Equal to <=, 4. Less than and Equal to =>,5. Not Equal to != ,6. Equal to ==.**

6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one.

Ans. **The difference is:**

**The Equal to operator is a comparison operator denoted as ‘==’. It returns the result either True or False. E.g., 5==4; False, 2==2; True.**

**The assignment operator is used to assign a value to a variable, it is denoted as ‘=’.It will assign a value. E.g. A = 5; x=’hello’.**

7. Identify the three blocks in this code:

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

else:

print('ham')

print('spam')

print('spam')

Ans**: If-else condition is used here. First block is if condition which is false, so the control goes to second block if -else, which is also false so else will get execute. then the other statement will execute.**

**Output—ham spam spam**

8. Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints Greetings! if anything else is stored in spam.

Ans:

**spam = int(input())**

**if spam ==1:**

**print(“Hello”)**

**elif spam ==2:**

**print(“Howdy”)**

**else:**

**print(“Greetings!”)**

9.If your programme is stuck in an endless loop, what keys you will press?

Ans: **Ctrl +C**

10. How can you tell the difference between break and continue?

Ans: **Break: When the program is executing, in any loop is running. If the break statement occurs in any condition, if it is true the control goes out of the loop and next statement of the program will execute.**

**Continue: When the program is executing, in any loop is running. If the continue occurs in any condition, if it is true the control will skip this statement and loop will execute again until condition is true. Then rest of the program program will execute.**

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?

Ans: **range(10) = it ranges from 0 to 9 => 0 1 2 3 4 5 6 7 8 9**

**Range(0,10) = It ranges from 0 to 10 (excluding 10) => 0 1 2 3 4 5 6 7 8 9**

**Range(0,10,1)= it ranges from 0 to 9 with 1 increment => 0 1 2 3 4 5 6 7 8 9**

12. Write a short program that prints the numbers 1 to 10 using a for loop. Then write an equivalent program that prints the numbers 1 to 10 using a while loop.

Ans:

**for i in range(1,11):**

**print(i)**

**i =1**

**While i <=10;**

**Print(i)**

**i++;**

13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?

Ans: **from spam import bacon**