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

**Ans**: It has two values: True and False. It is to be kept in mind that their t=first letter is always capital.

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

**Ans**: and, or and 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 or not

|  |  |  |
| --- | --- | --- |
| Input1 | Input2 | output |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

|  |  |
| --- | --- |
| input | output |
| 0 | 1 |
| 1 | 0 |

|  |  |  |
| --- | --- | --- |
| Input1 | Input2 | output |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

4. What are the values of the following expressions?

(5 > 4) and (3 == 5)

not (5 > 4)

(5 > 4) or (3 == 5)

not ((5 > 4) or (3 == 5))

(True and True) and (True == False)

(not False) or (not True)

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

False

>>> not (5 > 4)

False

>>> (5 > 4) or (3 == 5)

True

>>> not ((5 > 4) or (3 == 5))

False

>>> (True and True) and (True == False)

False

>>> (not False) or (not True)

True

5. What are the six comparison operators?

**Ans**:

|  |  |  |
| --- | --- | --- |
| **Operator** | **Name** | **Example** |
| == | Equal | X==2 |
| != | Not equal | X!=2 |
| > | Greater than | X>3 |
| < | Less than | X<4 |
| >= | Greater than or equal to | X>=10 |
| <= | Less than or equal to | X<=7 |

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 Assignment operator(=) is used to assign a value to a function. For example, a=21.

The Equal to operator(==) is used to check whether the two expressions on both sides are equal or not. For example, x==3.

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**: The three blocks are everything inside the if statement and the lines print('bacon') and print('ham').

|  |  |  |
| --- | --- | --- |
| BLOCK 1 | BLOCK 2 | BLOCK 3 |
| if spam==10:  print(‘eggs’) | if spam>5:  print(‘bacon’) | Else:  print(‘ham’)  print(‘spam’)  print(‘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("Enter the number"))

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’ll press?

**Ans**: CTRL+C

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

**Ans**: A break statement is used to terminate the loop whenever a particular condition is satisfied.

The continue statement skips the remaining lines of code, for the current iteration of the loop. In this case, the loop does not end, it continues with the next iteration.

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

**Ans**: They all generate the same output. The range(10) call ranges from 0 up to (but not including) 10, range(0,10) explicitly tells the loop to start at 0 , and range (0,10,1) explicitly tells the loop to increase the variable by 1 on each iteration.

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**: USING FOR LOOP:

for i in range(1,11):

print(i)

USING WHILE LOOP:

i=1

while i<=10:

print(i)

i=i+1

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

**Ans**: The function can be called with spam.bacon()