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

**Ans.** Boolean data type values are 0 and 1. We write these value as False & True.

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

**Ans.** Boolean Operator: -

1. AND
2. OR
3. 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**.

|  |  |  |  |
| --- | --- | --- | --- |
| A | B | A OR B | A AND B |
| 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 |

|  |  |
| --- | --- |
| A | NOT A |
| 0 | 1 |
| 1 | 0 |

**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) = 1 and 0 = 0(False)

not (5 > 4) = not True = False

(5 > 4) or (3 == 5) = 1 or 0 = 1(True)

not ((5 > 4) or (3 == 5)) = not(1 or 0) = not 1 = 0(False)

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

(not False) or (not True) = True or False = True

**5.** What are the six comparison operators?

**Ans**. Comparison Operators:-

1. Less than (<)
2. Greater than (>)
3. Less than equal to (<=)
4. Greater than equal to (>=)
5. Equal to (==)
6. Not 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.** Equal Operator(==) compare the two value or value of two variables(Eg. 3==3 or True == True), while assignment operator(=) assign a value to a variable(Eg. A=5, ‘=’ assign 5 to the variable ‘A’)

**7.** Identify the three blocks in this code:

spam = 0

if spam == 10:

1st Block

print('eggs')

if spam > 5:

print('bacon')

2nd Block

else:

print('ham')

print('spam')

3rd Block

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('Please enter the spam value: '))

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.** I’ll press ‘ctrl + C’ to stop the loop.

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

**Ans.**  **Break:** A break statement in Python alters the flow of a loop by terminating it once a specified condition is met.

**Continue:** The continue statement in Python is used to skip the remaining code inside a loop for the current iteration only.

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

**Ans.** In for loop, range(10) gives first 10 integer(0 to 9), range(0,10) gives the number start from zero and

range(10) : When we call, it gives a series of number start at 0(by default it always takes 0) and include all the whole numbers upto but not including the number provided(10). It gives first 10 integer(0,1,2,3,4,5,6,7,8,9).

range(0,10) : When we call, it gives a series of number start at 0(we can change it to any number less than second mentioned number(10)) and include all the whole numbers upto but not including the second mentioned number provided(10). Series will be (0,1,2,3,4,5,6,7,8,9)

range(0,10,1): We can choose not only where the series of numbers will start and stop, but also how big the difference will be between one number and the next. 1 mention here is the step if we don’t mention the step it will automatically consider 1 as the step. Series will be (0,1,2,3,4,5,6,7,8,9). Eg.- If we use range(0,10,2) then series will be (0,2,4,6,8)

**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.** Printing 1 to 10 using for loop

for i in range(1,11):

print(i)

Printing 1 to 10 using while loop

i=1

while i<=10:

print(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.** spam.bacon()