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

**Answer-** True and False.

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

**Answer-** "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 ).

**Answer-**

|  |  |  |
| --- | --- | --- |
| AND | | |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

|  |  |  |
| --- | --- | --- |
| OR | | |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

|  |  |
| --- | --- |
| NOT | |
| 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)

**Answer-**

(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?

**Answer-** less than ( < ), less than or equal to ( <= ), greater than ( > ), greater than or equal to ( >= ), equal to ( == ), and 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.

**Answer-** “=” is an assignment operator whereas “==” is a comparison operator.

a=5 # Assigned a variable a with integer 5

a==5 # Compare or check whether a is equal to 5 or not.

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')

**Answer-**

Indentation issue. “Tab” should be in print('eggs'), print('bacon') and after else.

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.

Answer-

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’ll press?

**Answer-** Ctrl + C

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

**Answer-** Break statement stops the entire process of the loop. Continue statement only stops the current iteration of the loop.

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

**Answer-** range(0,10,1) 🡪 It starts with 0 with 1 increment and runs till value is less than 10.

range(0,10) 🡪 It will do the same thing but will automatically assigns 1 as increment.

range(10) 🡪 It will do the same thing but will automatically assigns 1 as increment and 0 as start.

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.

**Answer-**

############# 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?

**Answer-**

import spam

Value= getattr(spam, bacon)