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

The two values of Boolean data types are TRUE & FALSE

We can write Boolean data types as

a = True

b = False

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

The three types of Boolean operators are

1. AND
2. OR
3. NOT

AND Operator: The Boolean operator returns False if any one of the inputs is False else return True

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A AND B** |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

OR Operator: The Boolean or operator returns True if any one of the inputs is True else returns False.

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A OR B** |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

NOT Operator: The Boolean Not operator only require one argument and returns the negation of the argument i.e., returns the True for False and False for True.

|  |  |
| --- | --- |
| **A** | **NOT A** |
| True | False |
| False | True |

**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 evaluates).**

AND Truth Table:

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A AND B** |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

OR Truth Table:

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **A OR B** |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

NOT Truth Table:

|  |  |
| --- | --- |
| **A** | **NOT A** |
| True | False |
| False | True |

**4. What are the values of the following expressions?**

(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?**

The six comparison operators in python are

1. Equal (==): Checks equality of two operands. Returns True if two operands are equal else False.
2. Not Equal (!=): Checks inequality of two operands. Returns True if two operands are unequal else True.
3. Greater than (>): Checks value of left operand is greater than value of right of operands. Returns True if so else False.
4. Less than (<): Checks value of left operand is lesser than value of right of operands. Returns True if so else False.
5. Greater than equal to (>=): Checks value of left operand is greater than or equal to value of right of operands. Returns True if so else False.
6. Less than equal to (<=): Checks value of left operand is lesser than or equal to value of right of operands. Returns True if so else False.

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

Assignment operator is used to assign the value to variable and equal to is used to compare the two values.

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

spam = 0

**Block 1:**

if spam == 10:

print('eggs')

**Block 2:**

if spam > 5:

print('bacon')

**Block 3:**

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.**

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?**

Ctrl + C

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

The break statement will move the execution outside and just after a loop. The continue statement will move the execution to the start of the loop.

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

They all do the same thing. The range (10) call ranges from 0 up to 9, 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.**

for i in range(1,11):

    print(i)

i = 1

while i<11:

    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?**

The function can be called by spam.bacon()