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

* A Boolean value represents a truth value; that is, TRUE or FALSE. Generally, it is used to represent the truth values of the expressions. For example, 1==1 is True whereas 2<1 is False.

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

* 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 ).

* "and" operator:

|  |  |  |
| --- | --- | --- |
| **Operand 1** | **Operand 2** | **Result** |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

* "or" operator:

|  |  |  |
| --- | --- | --- |
| **Operand 1** | **Operand 2** | **Result** |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

* "not" operator:

|  |  |
| --- | --- |
| **Operand** | **Result** |
| True | False |
| False | True |

4. What are the values of the following expressions?

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

not (5 > 4): **True**

(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?

* Greater than (>)
* Greater than or equal to (>=)
* Less than (<)
* Less than or equal to (<=)
* Equal to (==)
* 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.

* In Python, the equal to operator (==) is used to compare whether two values are equal, whereas the assignment operator (=) is used to assign a value to a variable.
* For ex: for equal to:

if x == 11:

print ("The value of x is 11.")

* For ex: assignment operator:

X = 11

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')

* Block 1: **spam = 0**
* Block 2: **if spam == 10: print('eggs')**
* Block 3: **if spam > 5: print('bacon') else: print('ham')**

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.

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?

* ‘break’ is used to exit a loop completely.
* ‘continue’ is used to skip over the remaining code in the current iteration of a loop and jump over to the next iteration.

# Example using break

for i in range(1, 6):

if i == 3:

break

print(i)

# Output: 1 2

# Example using continue

for i in range(1, 6):

if i == 3:

continue

print(i)

# Output: 1 2 4 5

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

* range(10), range(0, 10), and range(0, 10, 1) are equivalent and all generate a sequence of numbers starting form 0 to 9 with a step size of 1.

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 <= 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?

🡪 import spam

spam.bacon()