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

The two values of the Boolean data type are True and False.

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

The three different Boolean operators are 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 ).

|  |  |  |
| --- | --- | --- |
| AND Operator | | |
| True | False | False |
| False | True | False |
| False | False | False |
| True | True | True |

|  |  |  |
| --- | --- | --- |
| OR Operator | | |
| True | False | True |
| False | True | True |
| False | False | False |
| True | True | True |

|  |  |
| --- | --- |
| NOT Operator | |
| True | False |
| False | True |

4. What are the values of the following expressions?

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

not (5 > 4) Answer: False

(5 > 4) or (3 == 5) Answer: True

not ((5 > 4) or (3 == 5)) Answer: False

(True and True) and (True == False) Answer: False

(not False) or (not True) Answer: 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.

The assignment operator (=) is used to assign a value to a variable. For example,

a = 5

b= 'abc'

The equal to operator (==) is a Boolean operator which checks whether two values are the same or not. For example,

a==5 checks whether the statement is true or not and returns the appropriate Boolean value (i.e. either True or False)

if a==5:

print('abc')

In the if loop, if the condition holds true, only then is the print statement executed.

7. Identify the three blocks in this code:

spam = 0

if spam == 10: Block 1

print('eggs')

if spam > 5:

print('bacon') Block 2

else:

print('ham') Block 3

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("Enter a 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?

Ctrl+C

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

Break and continue are loop control statements.

break is used to terminate or exit the loop when a certain condition is met.

For example,

for i in range(10):

  if i == 3:

    break

  else:

    print(i, end=' ')

Output - 0 1 2

Continue is used to skip a certain iteration of the loop. For example,

for i in range(10):

  if i == 3:

    continue

  else:

    print(i, end=' ')

Output - 0 1 2 4 5 6 7 8 9

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

Apart from the way it is represented, there is no difference. All three give the same output.

for i in range(10):

  print(i, end= " ")

0 1 2 3 4 5 6 7 8 9

for i in range (0, 10):

  print(i, end= " ")

0 1 2 3 4 5 6 7 8 9

for i in range (0, 10, 1):

  print(i, end= " ")

0 1 2 3 4 5 6 7 8 9

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.

#Numbers 1 to 10 using for loop:

for i in range(1, 11):

  print(i, end= " ")

1 2 3 4 5 6 7 8 9 10

#Numbers 1 to 10 using while loop:

i=1

while i<11:

  print(i, end=" ")

  i+=1

1 2 3 4 5 6 7 8 9 10

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

import spam  #importing module

spam.bacon()   #calling function in the module