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

The two Boolean values are True and False

x=4

y=5

z=7

print (y>x and z>y)

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

and, or & not are the three different types of Boolean operators.

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).**

Truth Table for AND

|  |  |  |
| --- | --- | --- |
| A | B | output |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

Truth Table for OR

|  |  |  |
| --- | --- | --- |
| A | B | output |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

Truth Table for NOT

|  |  |
| --- | --- |
| A | output |
| 0 | 1 |

**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 are less than (<), greater than (>), less than or equal to (<=), 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.**

For all = is an assignment operator and == is a comparison operator. = operator is used to assign value to a variable and == operator is used to compare two variable or constants.

**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')**

Ans:-

spam = 0

if spam == 10:

print('eggs') #Block 1

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("Insert 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?**

 If program is stuck in endless loop we will press ctrl+c.

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

A break statement alters the flow of a loop by terminating it once a specified condition is met. Continue: The continue statement 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)?**

When we pass only one argument in range() then by default it starts from 0 and stops at \_1 value of argument. Here is the increment by 1 is default.

When we pass two arguments, it starts from the first arguments and stops at -1 value of stop argument. Here is the increment by 1 is default.

When we pass three arguments, it starts from the start argument, stops at stops arguments and here we can specify a different increment by adding a step parameter.

**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 loop:-

n = 10

for i in range(1, n + 1):

print (i)

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?**

This function can be called with spam.bacon().