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

**Answer**: Boolean Datatypes: True False

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

**Answer**: Boolean Operators:

AND : evaluates to True when both inputs are True, and False when either of input is False

OR : evaluates to True when eitherinputs are True, and False when both of input is False

NOT : evaluates to True when inputs operand is False, and False when input operand is True.   
 It negates and inverts the operand

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:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **x** | **y** | **AND** | **OR** | **NOT x** | **NOT y** |
| FALSE | FALSE | FALSE | FALSE | TRUE | TRUE |
| TRUE | FALSE | FALSE | TRUE | FALSE | TRUE |
| FALSE | TRUE | FALSE | TRUE | TRUE | FALSE |
| TRUE | TRUE | TRUE | TRUE | FALSE | FALSE |

4. What are the values of the following expressions?

**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**: Greater than >, Less than <, Greater than or Equal To >=, Less than or Equal To <=,   
 Equals ==, Not Equals !=

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

**Answer**:

***equal to*** : checks if both sides of operator are same or have same value. uses two = operand

***animal == “tiger”*** checks if the variable animal has a value of “tiger”. if its same, it returns ***True***, if its not same, it returns ***False***

***assignment*** : assigns the value of right variable or value to the left hand variable. uses only one = operand

***animal = “tiger”***

assigns “tiger” value to the variable *animal*

7. Identify the three blocks in this code:

**Answer**: intends added in code below

spam = 0

if spam == 10:

print('eggs')

if spam > 5:

print('bacon')

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.

**Answer**:

spam = 1 #set spam value through 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 : breaks the loop without continuing for next values in loop

continues : skips the next code in the loop and goes to the next iteration in the loop

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

**Answer**:

range(10) : automatically assumes starting value of 0 and ending value of 9

range(0, 10) : assumes starting value of 0 and ending value of 9

range(0, 10, 1) : assumes starting value of 0 and ending value of 9, with increment of 1

all three above loops from 0 to 9 with increment of 1 in the for loop

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**:

for i in range(1, 11):

print(i)

print("============")

j = 1

while j <= 10:

print(j)

j=j+1

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

**Answer**:

bacon() or spam.bacon()