1.What are the two values of the Boolean data type? How do you write them?  
  
Ans : True and False are two types of Boolean data type   
 Using Capital T and F, with the rest of the word in lowercase.

2. What are the three different types of Boolean operators?  
  
Ans : The three different types of Boolean operators are ‘And’ , ‘or’ ,’not’ they are nothing but logical 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 ).  
  
Ans :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No. | Value 1 | Operator | Value2 | output |
| 1 | True | AND | True | True |
| 2 | True | AND | False | False |
| 3 | False | AND | True | False |
| 4 | False | AND | False | False |
| 5 | True | OR | True | True |
| 6 | True | OR | False | True |
| 7 | False | OR | True | True |
| 8 | False | OR | False | False |
| 9 | True | NOT | - | False |
| 10 | False | NOT | - | 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   
  
Ans : False, False, True, False, false, True

5. What are the six comparison operators?  
  
Ans :

|  |  |  |
| --- | --- | --- |
| **Operator** | **Name** | **Example** |
| == | Equal | x == y |
| != | Not equal | x != y |
| > | Greater than | x > y |
| < | Less than | x < y |
| >= | Greater than or equal to | x >= y |
| <= | Less than or equal to | x <= y |

6. How do you tell the difference between the equal to and assignment operators?Describe a condition and when you would use one.  
  
Ans : ‘equal to’ operator compares or we can say check the equality of two values and evaluates to Boolean Output   
while ‘assignment’ operator assigns a variable to given value.

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 :   
 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.  
  
Ans :   
 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?  
  
Ans : CTRL + C is the key to break the loop   
 or interuupt the kernel key to break the loop

10. How can you tell the difference between break and continue?  
  
Ans :   
break is used when we want to stop iteration of loop once our condition is satisfied  
Continue is used when we want to do mothing or skip that iteration when our condition is satisfied.

11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?  
  
Ans : There is no difference at all actually they all do the same thing.  
the range(10) call ranges from 0 up to 10 ( but not including the 10),  
range (0, 10) explicitly tells the loop to start at 0,   
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.  
  
Ans :   
1 ) by using for loop   
  
 for i in range(1, 11):  
 print(i)  
  
2) by using while loop   
   
 num = 1  
 while num <= 10:  
 print(num)  
 num = num + 1  
 if num > 10:  
 break

13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?  
  
Ans : We will first imort function from module spam then simply call it using function name bacon(), with arguments if it has any. i.e. spam.bacon()