**Solutions:**

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

Ans: True and False. A boolean data type is declared with the bool keyword and can only take the values true or false . When the value is returned, true = 1 and false = 0

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

**Ans**: 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 ).**

**Ans:**

1. **AND operator’s truth table**

|  |  |  |
| --- | --- | --- |
| **First operand** | **Second operand** | **Result** |
| True | True | True |
| True | False | False |
| False | True | False |
| False | False | False |

1. **OR operator’s truth table**

|  |  |  |
| --- | --- | --- |
| **First operand** | **Second operand** | **Result** |
| True | True | True |
| True | False | True |
| False | True | True |
| False | False | False |

1. **NOT operator’s truth table**

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

5. **What are the six comparison operators?**

**Ans:**  less than ( < ),

less than or equal to ( <= ),

greater than ( > ),

greater 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.**

**Ans:** [The “**=**” is an](https://www.geeksforgeeks.org/operators-c-c/)[assignment operator](https://www.geeksforgeeks.org/assignment-operators-in-c-c/) is used to assign the value on the right to the variable on the left.

Example:

x=(a+b);

y=x;

Here, When first expression evaluates value of (a+b) will be assigned into x and in second expression y=x; value of variable xwill be assigned into y.

The ‘==’ operator (equal to operator) checks whether the two given operands are equal or not. If so, it returns true. Otherwise it returns false.

Example:

int x,y;

x=10;

y=10;

if(x==y)

printf("True");

else

printf("False");

When expression x==y evaluates, it will return 1 (it means condition is TRUE) and "TRUE" will print.

7. **Identify the three blocks in this code:**

**Ans:**

spam = 0 🡪 **1st block**

if spam == 10:

print('eggs')

if spam > 5:

print('bacon') 🡪 **2nd Block**

else:

print('ham')

print('spam') 🡪 **3rd block**

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:**

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

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

**Ans:** break statement immediately exits the entire loop whereas continue statement just skips a condition under the loop.

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

**Ans:** No difference

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:**

For loop:

for i in range(1,11):

print(i)

While loop:

i=1

while i<11:

print(i)

i=i+1

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

**Ans:** spam.bacon()