

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

Answer: True and False, True is represented as 1 and False is represented as 0

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

Answer: The three basic 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).

Answer:

AND ->

Truth Table for And		
A	B	Result
0	0	0
0	1	0
1	0	0
1	1	1

OR ->

Truth Table for OR		
A	B	Result
0	0	0
0	1	1
1	0	1
1	1	1

NOT ->

Truth Table for NOT	
A	Result
0	1
1	0

4. What are the values of the following expressions?

(5 > 4) and (3 == 5)

not (5 > 4)

(5 > 4) or (3 == 5)

not ((5 > 4) or (3 == 5))

(True and True) and (True == False)

(not False) or (not True)

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: The six comparison operators are

- 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.

Answer: Equal to operator consist of two “=” operators and assignment operator consists of a single “=” operator.

If we are to compare if two strings are equal or not, we will use the equal to operator, like

```
print("True") if("abcd"=="abcd") else print("False")
```

If we are to assign a number to a variable we will use the assignment operator, like

```
State_name = "Tri"+"Pura"
```

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')
```

Answer:

if spam == 10:

print('eggs') > BLOCK 1

if spam > 5: > BLOCK 2

print('bacon')

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.

Answer:

```
spam=int(input("Enter either 1,2 or 3\n"))
```

```
if spam==1:
```

```
    print("Hello")
```

```
elif spam==2:
```

```
    print("Howdy")
```

```
elif spam==3:
```

```
    print("Greetings!")
```

```
else:
```

```
    print("Try Again")
```

9. If your programme is stuck in an endless loop, what keys you'll press?

Answer:

- 1) **CTRL + C**
- 2) **Ctrl + Break**

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

Answer:

Break exits the innermost enclosing loop and **continue** causes the next iteration of the enclosing for or while loop.

A break can appear in switch and loop statements whereas a continue can only occur in loop statements, Break causes termination of the innermost loop or switch statement, whereas continue doesn't terminate the loop but goes to the next iteration of the enclosing loop.

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

Answer:

range(10) -> Sequence of ordered numbers from 0 to 9

range(0,10) -> A sequence of ordered numbers from 0 to 9

range(0,10,1) -> A sequence of ordered numbers from 0 to 9 incrementally accessed in step of 1

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 Loop

```
for i in range(1,11,1):  
    print(i,end=" ")
```

While Loop

```
i=1  
  
while i in range(1,11):  
    print(i,end=" ")  
  
    i += 1
```

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

Answer:

You can call the function `bacon()` using the dot operator after the module name.

```
import spam  
  
spam.bacon()
```