# Assignment 2

#### 1.What are the two values of the boolean data types? how do you write them ?

**Answer:**

True and False are two values of the boolen data types. We have to use capital T and F and with the rest of the word in lowercase

a=True  
b=False  
print(a,type(a))  
print(b,type(b))

True <class 'bool'>  
False <class 'bool'>

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

**Answer:**

The three differnt types of Boolean operators in python are: or and not

a=100  
b=200  
print(a>50 and b>100) # Example of boolean and  
print(a>200 or b>100) # Example of boolean or  
print(not(a>10)) # Example of boolean not

True  
True  
False

#### 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:**

The Truth tables for the boolean tables are as follows:

* **Truth Table for and operaotor**  
  *True and True is True*  
  *True and False is False*  
  *False and True is False*  
  *False and False is False*
* **Truth Table for or operaotor**  
  *True and True is True*  
  *True and False is True*  
  *False and True is True*  
  *False and False is False*
* **Truth Table for not operaotor**  
  *True not is False False not is True*

#### 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:**

print((5>4)**and**(3==5)) *# False*  
print(**not**(5>4)) *# False*  
print((5>4)**or**(3==5)) *# True*  
print(**not**((5>4)**or**(3==5))) *# False*  
print((True **and** True)**and**(True==False)) *# False*  
print((**not** False)**or**(**not** True)) *# True*

False  
False  
True  
False  
False  
True

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

**Answer:**

The Six comparision operators available in python are:  
== , != , < , > , <= , =>

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

**Answer:**

== is the equal to operator that compares two values and evaluates to a Boolean, while = is that assignment operator that stores a value in a variable.

a=3 # Assigning operator that stores 3 value in a variable a  
if a==3:#comparing values of a varible value and 3  
 print(a==3)

True

#### 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:**

In Python, code block refers to a collection of code that is in the same block or indent. This is most commonly found in classes, functions, and loops.

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')

ham  
spam  
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:**

def spamCode(spam):  
 if spam==1:  
 print('Hello')  
 elif spam==2:  
 print('Howdy')  
 else:  
 print('Greetings')  
   
spamCode(1)   
spamCode(2)  
spamCode(3)

Hello  
Howdy  
Greetings

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

**Answer:**

Press Ctrl-c to stop a program stuck in an infinite loop

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

**Answer:**

The break statement will move the execution outside the loop if break condtion is satisfied. Whereas the continue statement will move the execution to the start of the loop.

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

**Answer:**

The Differences are as follows:

1. The ***range(10)*** call range from 0 to 9 (but not include 10)
2. The ***range (0,10)*** explicitly tells the loop to start at 0
3. The ***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 ?

**Answer:**

print('-'\*10,'Using For Loop','-'\*10)  
for i in range(1,11):  
 print(i, end=" ")  
print('\n')  
print('-'\*10,'Using While Loop','-'\*10)   
i=1  
while i<=10:  
 print(i, end=" ")  
 i+=1

---------- Using For Loop ----------  
1 2 3 4 5 6 7 8 9 10   
  
---------- Using While Loop ----------  
1 2 3 4 5 6 7 8 9 10

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

**Answer:**

This function can be called with spam.bacon()