Assignment 2 Solutions

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

ANS: 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

In [1]:

```
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?

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

In [2]:

```
a=200
b=300
print(a>60 and b>120) # Example of boolean and
print(a>300 or b>120) # 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 operator and what it evaluate)?

ANS: The Truth tables for the boolean tables are as follows:

- **Truth Table for and operaotor**

  True and True is True

  True and False is Fasle

  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 is False

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)**

In [3]:

```
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?

ANS: 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 ?

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

In [4]:

```
a=4 # Assigning operator that stores 3 value in a variable a
if a==4:#comparing values of a varible value and 3
    print(a==4)
```

```
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')

ANS: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,function,and loops.

In [5]:

```
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.

In [6]:

```
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?

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

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

ANS: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)?

ANS:The Difference 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 nimbers 1 to 10 using a for loop.Then write an equivalent program that prints the numbers 1 to 10 using a while loop ?

In [7]:

```
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 ?

ANS: This function can be called with spam.bacon()

In [ ]:

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