Assignment 2

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

The two values are True and False. They are written with an uppercase T and F.

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

The three Boolean operators are: and, or, 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).**

AND:  
True and True => True  
True and False => False  
False and True => False  
False and False => False  
  
OR:  
True or True => True  
True or False => True  
False or True => True  
False or False => False  
  
NOT:  
not True => False  
not 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?**

==, !=, <, >, <=, >=

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

'=' is the assignment operator used to assign values (e.g., x = 5). '==' is the equal to operator used for comparison (e.g., if x == 5).

**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')**

Block 1: Inside 'if spam == 10'  
Block 2: Inside 'if spam > 5' and 'else'  
Block 3: The final two print statements (outside any conditionals).

**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.**

spam = int(input('Enter value of spam: '))  
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?**

Press Ctrl + C to interrupt and stop the program.

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

'break' exits the loop entirely, while 'continue' skips the rest of the current iteration and moves to the next.

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

They all generate numbers from 0 to 9. The first is a shorthand for the second. The third explicitly defines the start, stop, and step.

**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.**

For loop:  
for i in range(1, 11):  
 print(i)  
  
While loop:  
i = 1  
while i <= 10:  
 print(i)  
 i += 1

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

spam.bacon()