PYTHON ASSIGNMENT – 2

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

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

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).

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)

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.

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')
```

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.

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

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

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

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

importing spam?

SOLUTIONS

1. **Boolean Data Type:**
   - True (written as **True**)
   - False (written as **False**)
2. **Boolean Operators:**
   - AND (**and**)
   - OR (**or**)
   - NOT (**not**)
3. **Boolean Operator Truth Tables:**

- AND Truth Table:
    - True AND True = True
    - True AND False = False
    - False AND True = False
    - False AND False = False
- OR Truth Table:
    - True OR True = True
    - True OR False = True
    - False OR True = True
    - False OR False = False
- NOT Truth Table:
    - NOT True = False
    - NOT False = True

4. **Values of 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. **Comparison Operators:**
   - == (equal to)
   - != (not equal to)
   - < (less than)
   - > (greater than)
   - <= (less than or equal to)
   - >= (greater than or equal to)

6. **Equal To vs. Assignment Operators:**
   - Equal To (==) is a comparison operator used to check if two values are equal.
   - Assignment Operator (=) is used to assign a value to a variable.
   - Example: **spam = 5** assigns the value 5 to the variable **spam**, whereas **spam == 5** checks if **spam** is equal to 5.

7.Code Blocks:
   - Block 1:

```
spam = 0
```

```python
if spam == 10:
    print('eggs')
```

```python
if spam > 5:
    print('bacon')
else:
    print('ham')
```

8.Code for Different Values in Spam:

```python
if spam == 1:
    print('Hello')
elif spam == 2:
    print('Howdy')
else:
    print('Greetings!')
```

9.Endless Loop Keys:
- Press **Ctrl + C** to break out of an endless loop.

10.Difference between Break and Continue:
- **break** is used to exit a loop prematurely.
- **continue** is used to skip the rest of the code inside a loop for the current iteration and move to the next iteration.

11.Difference in range() Arguments:
- **range(10)**: Generates numbers from 0 to 9.
- **range(0, 10)**: Generates numbers from 0 to 9.
- **range(0, 10, 1)**: Generates numbers from 0 to 9 with a step of 1.

12. Program to Print Numbers 1 to 10:

- Using a for loop:

```python
for i in range(1, 11):
    print(i)
i = 1
while i <= 10:
    print(i)
    i += 1
```

13. Calling Function from Imported Module:

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