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

Answer
The two values of the Boolean data type are True and False. They are written as literals in Python.

```
x = True
y = False
```

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

Answer
`and` (Logical AND)
`or` (Logical OR)
`not` (Logical 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 evaluates).

Answer

Condition 1 (X)	Condition 2 (Y)	Not X (~X)	X AND Y (X && Y)	X OR Y (X || Y)
false	false	true	false	false
false	true	true	false	true
true	false	false	false	true
true	true	false	true	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
(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
== (equal to)
!= (not equal to)
< (less than)
> (greater than)
<= (less than or equal to)
>= (greater than or 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
The equal to operator is ==, used for comparison, while the assignment operator is =, used for assigning values to variables.

Assignment: **`x = 5`**

Comparison:
```
if x == y:
    print('x equals y)
```

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

Block 1: **`print('eggs')`**

Block 2: **`print('bacon')`**

Block 3: **`print('ham')`**

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

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

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

Answer

If my program is stuck in an endless loop, I will press **`Ctrl + C`** to interrupt the execution in most environments.

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

Answer

`break`: It terminates the loop and transfers the control to the next statement outside the loop.
`continue`: It skips the rest of the code inside the loop for the current iteration and goes to the next iteration.

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

Answer

`range(10)`: Generates values from 0 to 9 (default start is 0, and the step is 1)
`range(0, 10)`: Generates values from 0 to 9 explicitly specifying the start (0) and default step (1)
`range(0, 10, 1)`: Generates values from 0 to 9 explicitly specifying the start (0) and step (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):
    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

Answer

```
from spam import bacon
```