

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

Answer: True and False. We can write them using capital T and F with the rest of the word in lowercase.

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

Answer: 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 evaluates to)

Answer:

- **AND:**

True	True	True
True	False	False
False	True	False
False	False	False

- **OR:**

True	True	True
True	False	True
False	True	True
False	False	False

- **NOT:**

Not True is **False**

Not False is **True**

4. What are the values of the following expressions?

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	<code>==</code>
Not Equal	<code>!=</code>
Greater than	<code>></code>
Less than	<code><</code>
Greater than or equal to	<code>>=</code>
Less than or equal to	<code><=</code>

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 the assignment operator that stores a value in a variable.

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:

The three blocks are everything inside the if statement and the lines `print ('bacon')` and `print ('ham')`.

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

Answer:

```
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?

Answer:

Ctrl-C

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

Answer:

The **break** statement will move the execution outside and just after a loop.

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:

They all do the same thing. The range (10) call ranges from 0 up to (but not including) 10, range (0, 10) explicitly tells the loop to start at 0, and 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:

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

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()