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

ANSWER: Boolean data type has two values i.e True and False. True=1 and False=0.

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

ANSWER: The three types of Boolean operators are AND, OR and 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).

ANSWER: True and True is True.

True and False is False.

False and True is False.

False and False is False.

True or True is True.

True or False is True.

False or True is True.

False or False is False.

not True is False.

not False is True

A	B	A & B	A | B
0	0	0	0
1	0	0	1
0	1	0	1
1	1	1	1

Where True=1 and False = 0

Truth table for Not

Input	Output
0	1
1	0

4. What are the values of the following expressions?

(5 > 4) and (3 == 5) : **False**

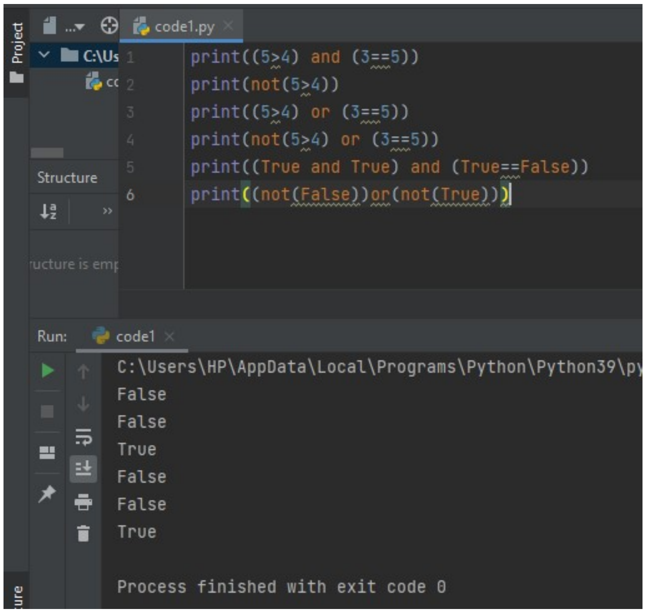
not (5 > 4): **False**

(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**



```python
print((5>4) and (3==5))
print(not(5>4))
print((5>4) or (3==5))
print(not(5>4) or (3==5))
print((True and True) and (True==False))
print((not(False))or(not(True)))
```

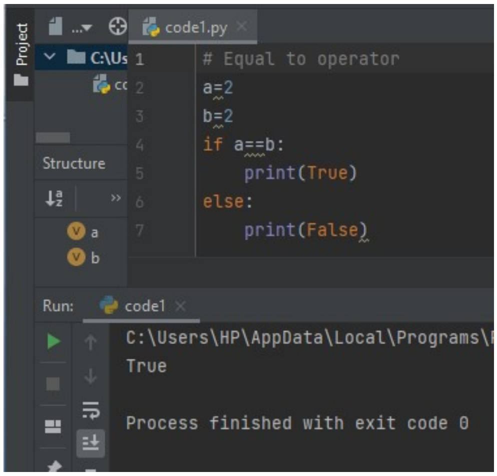
```
C:\Users\HP\AppData\Local\Programs\Python\Python39\py
False
False
True
False
False
True

Process finished with exit code 0
```

5. What are the six comparison operators?

ANSWER: >, <, >=, <=, !=, ==

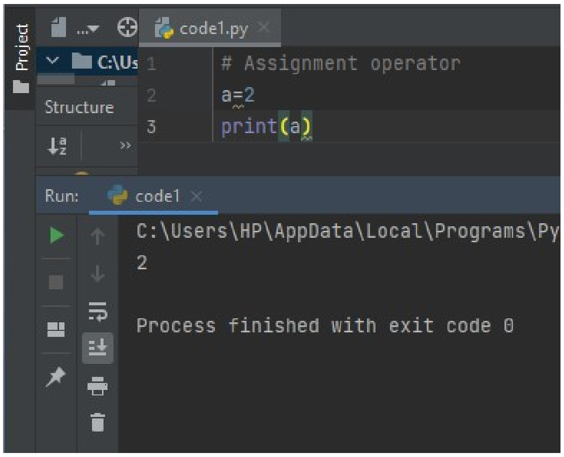
6. How do you tell the difference between the equal to and assignment operators? Describe a condition and when you would use one.

ANSWER: “=” is the assignment operator that is used to store the value in a variable. “==” is the equal to operator that is used to compare two values and evaluates to a Boolean.



```
# Equal to operator
a=2
b=2
if a==b:
    print(True)
else:
    print(False)
```

```
C:\Users\HP\AppData\Local\Programs\
True

Process finished with exit code 0
```



```
# Assignment operator
a=2
print(a)
```

```
C:\Users\HP\AppData\Local\Programs\Py
2

Process finished with exit code 0
```

7. Identify the three blocks in this code:

spam = 0

if spam == 10:k

print('eggs')

if spam > 5:

print('bacon')

else:

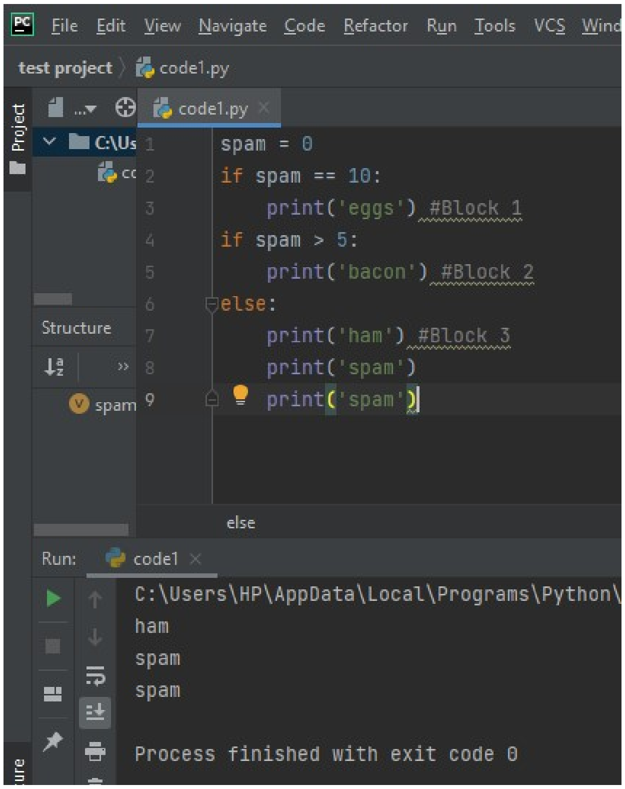
print('ham')

print('spam')

print('spam')

ANSWER: The three blocks are everything inside the if statement and the lines print('bacon') and print('ham') i.e

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



```
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')
```

```
C:\Users\HP\AppData\Local\Programs\Python\
ham
spam
spam

Process finished with exit code 0
```

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:
```
spam = int(input("Enter the value"))

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

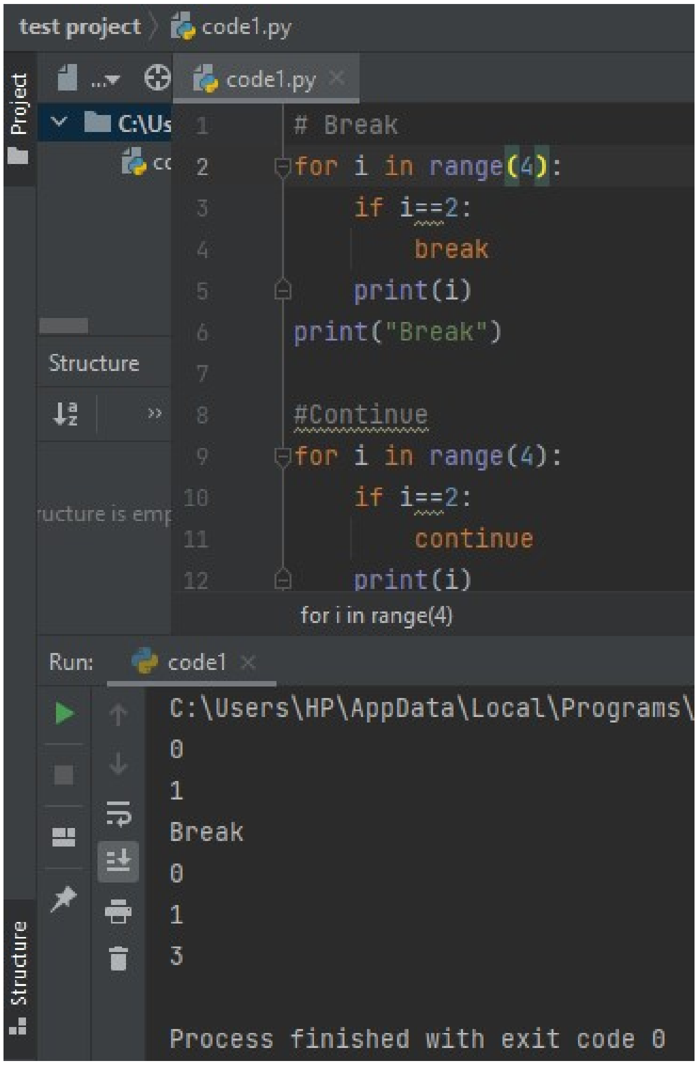
9.If your programme is stuck in an endless loop, what keys you'll press?

ANSWER: CTRL+C

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

ANSWER:

Break	Continue
It is used to stop the execution of the loop at a specific condition.	It is used to skip a particular iteration of the loop.

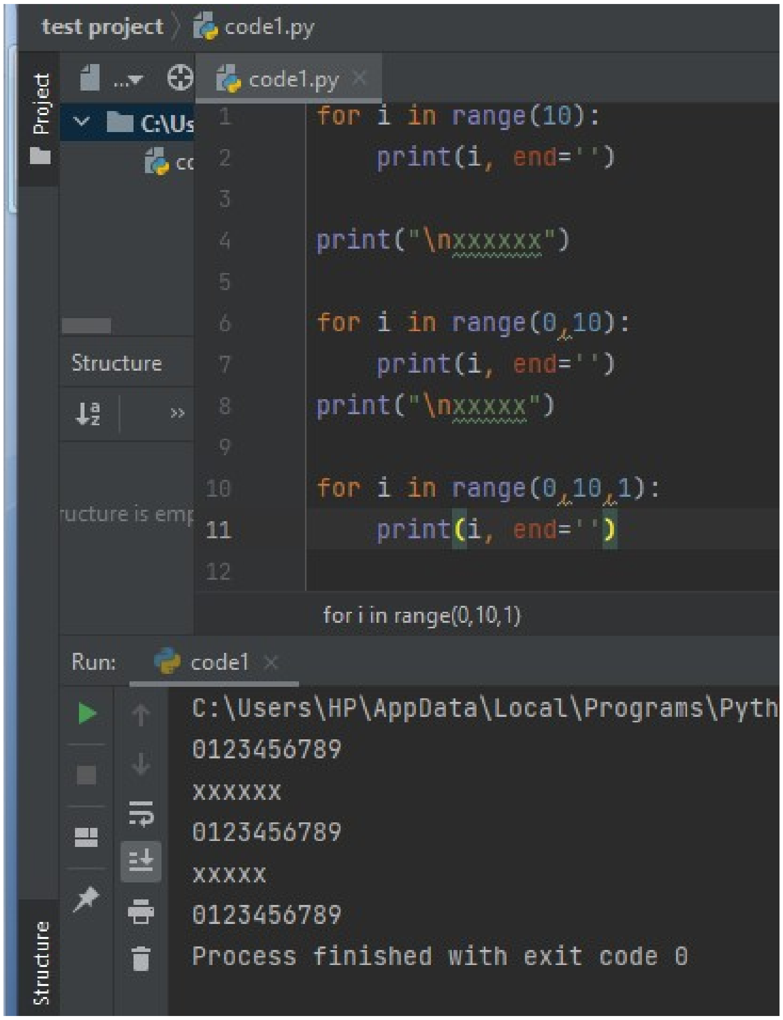


```
# Break
for i in range(4):
    if i==2:
        break
    print(i)
print("Break")

#Continue
for i in range(4):
    if i==2:
        continue
    print(i)
```

```
C:\Users\HP\AppData\Local\Programs\
0
1
Break
0
1
3

Process finished with exit code 0
```

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

ANSWER: There is no difference as they give same output, refer below snap.

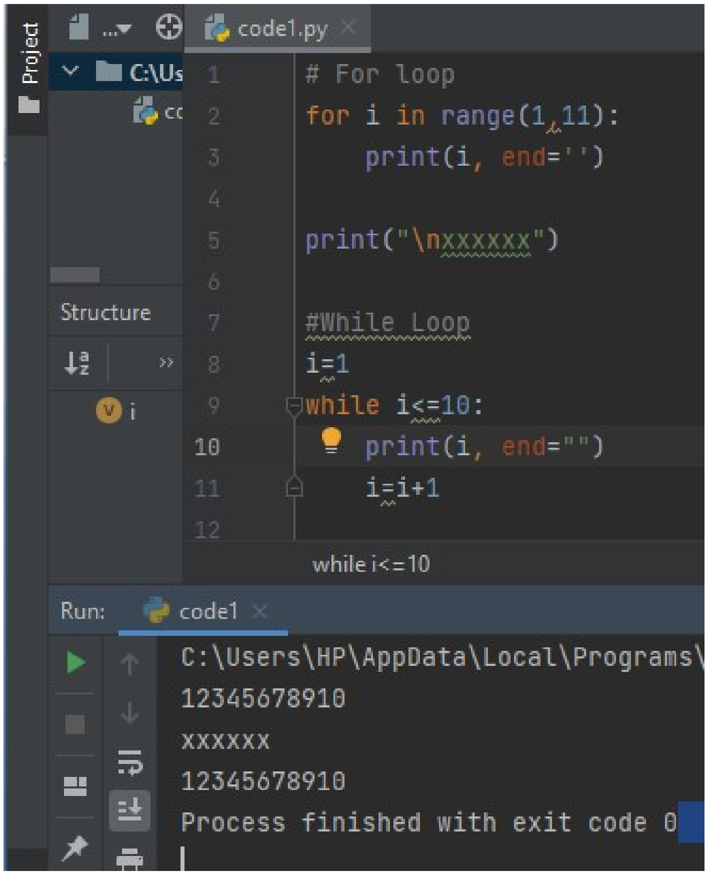


```
for i in range(10):
    print(i, end='')

print("\nxxxxxx")

for i in range(0,10):
    print(i, end='')
print("\nxxxxx")

for i in range(0,10,1):
    print(i, end='')
```

```
C:\Users\HP\AppData\Local\Programs\Pyth
0123456789
xxxxxx
0123456789
xxxxx
0123456789
Process finished with exit code 0
```

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, end='')

print("\nxxxxxx")

#While Loop
i=1
while i<=10:
    print(i, end="")
    i=i+1
```



```python
# For loop
for i in range(1,11):
    print(i, end='')

print("\nxxxxxx")

#While Loop
i=1
while i<=10:
    print(i, end="")
    i=i+1
```

```
C:\Users\HP\AppData\Local\Programs\
12345678910
xxxxxx
12345678910
Process finished with exit code 0
```

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

ANSWER: spam.bacon()