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

Ans 1

The two values of the Boolean data type are True and False. They are written with the first letter capitalized and the rest of the word in lowercase.

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

Ans 2

The three different types of Boolean operators

and: The and operator returns True if both operands are True, and False otherwise. It is used to combine two or more conditions that must all be true.

or: The or operator returns True if at least one of the operands is True, and False otherwise. It is used to combine two or more conditions where only one needs to be true.

not: The not operator is a unary operator that returns the opposite of the operand. If the operand is True, not returns False, and if the operand is False, not returns True. It is used to negate a condition.

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 ).

Ans 3

Truth tables for each Boolean operator

AND operator (and)

Operand 1 Operand 2 Result

True True True True

True False False False

False True False False

False False False False

The and operator returns True only if both operands are True. Otherwise, it returns False.

OR operator (or)

Operand 1 Operand 2 Result

True True True True

True False True True

False True True True

False False False False

The or operator returns True if either or both of the operands are True. It returns False only if both operands are False.

NOT operator (not)

Operand Result

True False False

False True True

The not operator returns True if the operand is False, and False if the operand is True. It negates the value of the operand.

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)

Ans 4

(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?

Ans 5

> (greater than)

< (less than)

>= (greater than or equal to)

<= (less than or equal to)

== (equal to)

!= (not 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.

Ans 6

the equal to operator is ==, and it is used to compare two values and check if they are equal. the assignment operator is =, and it is used to assign a value to a variable.

Eg

x = 5

if x == 5:

print("x is equal to 5")

the equal to operator == is used to compare the value of x with the integer 5. The condition x == 5 is True, so the code runs the message "x is equal to 5" is printed.

x = 5

y = x + 2

the assignment operator = is used to assign the value 5 to the variable x. The value of x is used in an expression to calculate the value of y, which is assigned using the assignment operator

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”)

Ans 7

spam = 0

if spam == 10:

print("eggs")

if spam > 5:

print("bacon")

else:

print("ham")

print("spam")

print("spam")

first block if spam == 10:

second block if spam > 5:

third block else:

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.

Ans 8

spam = 2

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?

Ans 9

In windows by ctrl + break

In mac by kill command

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

Ans 10

break and continue are control flow statements used inside loops to alter the normal flow of execution. The difference between the two:

break statement: When executed inside a loop, break immediately terminates the loop and transfers control to the statement following the loop. It is used to exit a loop prematurely when some condition is met or when all the necessary iterations have been completed.

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

Ans 11

In a for loop, range(10), range(0, 10), and range(0, 10, 1) are three different ways of specifying the range of values over which the loop should iterate. However, they all produce the same sequence of numbers from 0 to 9.

range(10): This syntax creates a sequence of numbers from 0 to 9. In this case, the starting value is 0, and the ending value is 10-1=9. If no starting value is specified, the default starting value is 0.

Eg

for i in range(10):

print(i)

output

0

1

2

3

4

5

6

7

8

9

range(0, 10): This syntax also creates a sequence of numbers from 0 to 9. However, in this case, both the starting and ending values are explicitly specified. The starting value is 0, and the ending value is 10-1=9.

Eg

for i in range(0, 10):

print(i)

output

0

1

2

3

4

5

6

7

8

9

range(0, 10, 1): This syntax creates a sequence of numbers from 0 to 9, with a step size of 1. In this case, both the starting and ending values are explicitly specified, and the step size is also explicitly specified as 1.

Eg

for i in range(0, 10, 1):

print(i)

output

0

1

2

3

4

5

6

7

8

9

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.

Ans 12

In for loop

for i in range(1, 11):

print(i)

in while loop

i = 1

while i <= 10:

print(i)

i += 1

in both output will be

1

2

3

4

5

6

7

8

9

10

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

importing spam?

Ans 13

bacon() function by using dot notation as

import spam

spam.bacon()

If the function requires any arguments, you can pass them inside the parentheses as usual. For example, if the bacon() function takes a string argument

import spam

spam.bacon("hello")