**ASSIGNMENT SUBMISSION BY HRITIK PAL**

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

**Ans.** There are two values for Boolean data type- True and False or 1 and 0.

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

**Ans.** There are three different types of Boolean operators- NOT, OR & AND.

**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.** TRUTH TABLE FOR AND OPERATOR

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **OUTPUT(A AND B)** |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

TRUTH TABLE FOR OR OPERATOR

|  |  |  |
| --- | --- | --- |
| **A** | **B** | **OUTPUT(A OR B)** |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

TRUTH TABLE FOR NOT OPERATOR

|  |  |
| --- | --- |
| **A** | **OUTPUT(NOT A)** |
| 0 | 1 |
| 1 | 0 |

**4. What are the values of the following expressions?**

**(5 > 4) and (3 == 5)-** False(as 3 is greater than 5 and not equals to 5 but here it is using AND operator so one of any two expression gives false, the output would be false or 0)

**not (5 > 4)-** False(as 5 is greater than 4 and it is using NOT operator, so the output would be opposite)

**(5 > 4) or (3 == 5)-** True(as OR operator has been used in the expression. Thus the output would be true or 1)

**not ((5 > 4) or (3 == 5))-**False(as the output for the expression would be true but after using NOT operator, the output would become its opposite. Hence output would be False)

**(True and True) and (True == False)-**False(as it is using AND operator and one of the operands gives false. Thus, the output would be false or 0. Because in AND operator if any of the two operands show false output then the output becomes false or 0)

**(not False) or (not True)-**True(as one of the operand should be true in OR operator. Hence, output would be true or 1)

**5. What are the six comparison operators?**

**Ans.** The six comparison operators are-

|  |  |  |
| --- | --- | --- |
| **NAME OF THE OPERATOR** | **OPERATOR** | **EXAMPLE USING OPERATOR** |
| **EQUAL** | == | x==y |
| **NOT EQUAL** | != | x!=y |
| **GREATER THAN** | > | x>y |
| **LESS THAN** | < | x<y |
| **GREATER THAN OR EQUAL TO** | >= | x>=y |
| **LESS THAN OR EQUAL TO** | <= | x<=y |

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

**Ans.** There is difference between equal to(==) operator and assignment operator. The equal to operator(==) is used to check whether an operand is equals to the other operand or not. Whereas, assignment operators are used to assign a value to a variable.

For Example-

* if(x==10): *#checks whether x is equals to y or not, if yes then print x.*

print(x)

* x=10 *#assigns value to to x*

**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.** spam = 0

if spam == 10: *#first block*

print('eggs')

if spam > 5: *#second block*

print('bacon')

else: *#third block*

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.**

**Ans.** while True :

try:

spam=int(input('Enter any number'))

if spam==1:

print('Hello')

elif spam==2:

print('Howdy')

else:

print('Greetings!')

except:

print('String not allowed')

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

**Ans.** If programme stucks in an endless loop, then we should interrupt the kernel or restart the kernel, in this case either we can stop the kernel by pressing I twice or should click on the icon to stop the kernel on the screen. We can also restart the kernel by going into the kernel menubar or by pressing 0 twice.

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

**Ans.** The difference between break and continue is that break terminate the loop once the condition is satisfied or executed while continue on the other hand permits the compiler to compile the code even after successful execution of the loop, and permits the code for the next iteration in the program.

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

**Ans.** Although the output would be the same for all the three range functions but all of three convey different meaning in range function.

range(10) means this function in for loop will start from 0 till n-1 means 9. It has its initial starting point 0 which is pre-defined in the compiler.

range(0,10) means this function in for loop will start from 0 which is defined by the programmer till n-1 means 9. Hence it shows different output if we input 1 in place of 0. In this way it is different from above example of range function.

range(0,10,1) means this function in for loop will start from 0 which is defined by programmer just like the previous example till n-1 means 9. But in this range function programmer has instructed in the program to jump 1 after every number in range function. The output must be different if we place 2 in respect of 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.**

**Ans.**

**For loop program-**

for i in range(1,11):

print(i,end=" ")

**While loop program-**

a=1

while a<=10:

print(a,end=" ")

a=a+1

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

**Ans.** We can call bacon() inside spam module as spam.bacon()