Task 1: Arithmetic Operators

1. Create two variables a and b with numeric values.

2. Calculate the sum, difference, product, and quotient of a and b.

3. Print the results.

Code:   
  
# arithmetic operators  
  
a=20  
b=15  
  
# addition  
  
print(a+b) # opt: 35  
  
# difference (subtraction)  
  
print(a-b) # opt: 5  
  
# product (multiplication)  
  
print(a\*b) # opt: 300  
  
# quotient (modulus)  
  
print(a/b) # opt: 1.333

Task 2: Comparison Operators

1. Compare the values of a and b using the following comparison operators: < , > ,<=,>=,==, !=

2. Print the results of each comparison.

Code:

# comparison operators

a=20  
b=10  
  
# less than  
  
print(a<b) # opt: false  
  
# greater than  
  
print(a>b) # opt: true  
  
# less than equal  
  
print(a<=b) # opt: false  
  
# greater than equal  
  
print(a>=b) # opt: true  
  
# equally  
  
print(a == b) # opt: false  
  
# not equal  
  
print( a!= b) #opt: true

Task 3: Logical Operators

1. Create two Boolean variables, x and y.

2. Use logical operators (and, or, not) to perform various logical operations on x and y.

3. Print the results.

Code:

# logical operators  
   
# create two variables  
   
x=True  
y=False  
   
# and operator  
   
print(x and y) # opt: False  
   
# or operator  
   
print(x or y) # opt: True  
   
# not operator  
   
print(not y) #opt: true  
  
print(not x) # opt: false

Task 4: Assignment Operators

1. Create a variable total and initialize it to 10.

2. Use assignment operators (+=, -=, \*=, /=) to update the value of total.

3. Print the final value of total.

Code:  
  
total=10  
  
# assignment operator  
  
# addition  
total+=5  
  
print(total) # opt: 15  
  
# subtraction  
total-=5  
  
print(total) # opt: 10  
  
# multiplication  
total\*=5  
  
print(total) # opt: 50  
  
# division  
  
total/=2  
  
print(total) # opt: 25.0

Task 5: Bitwise Operators (Optional)

1. If you are comfortable with bitwise operators, perform some bitwise operations on integer

values and print the results. If not, you can skip this task.

Code:

a=10  
b=5  
  
# and operator  
  
print(a & b) # opt: 0  
  
# or operator  
  
print(a | b) # opt: 15

# left shift operator  
  
print(a<<b) # opt: 320  
  
# right shift operator  
  
print(a>>b) # opt: 0

# xor operator  
  
print(a ^ b) # opt: 15

# not operator  
  
print(~a) # opt: -11  
  
print(~b) # opt: -6

Task 6: Identity and Membership Operators

1. Create a list my\_list containing a few elements.

2. Use identity operators (is and is not) to check if two variables are the same object.

3. Use membership operators (in and not in) to check if an element is present in my\_list.

4. Print the results.

Code:

#create the list

my\_list=["santosh","gopi",17,31,"jeevan","hari"]  
  
list=my\_list  
  
# identity operators  
  
result=my\_list is list  
  
print(result) # opt: True  
  
# membership operators  
  
result="santosh" in my\_list  
  
print(result) # opt: True