

Assignment_2

March 20, 2024

[3]: *#Calculate the sum, difference, product, and quotient of two numbers.*

```
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

sum_result = num1 + num2
difference_result = num1 - num2
product_result = num1 * num2

if num2 != 0:
    quotient_result = num1 / num2
else:
    quotient_result = "Undefined (division by zero)"

print("Sum:", sum_result)
print("Difference:", difference_result)
print("Product:", product_result)
print("Quotient:", quotient_result)
```

Enter the first number: 20
Enter the second number: 10

Sum: 30.0
Difference: 10.0
Product: 200.0
Quotient: 2.0

[2]: *#Perform various assignment operations on a @variable.*

```
x = 10

x + 5
print("After addition:", x)

x - 3
print("After subtraction:", x)
```

```

x * 2
print("After multiplication:", x)

x / 4
print("After division:", x)

x // 2
print("After floor division:", x)

x % 2
print("After modulus:", x)

x ** 3
print("After exponentiation:", x)

x & 1
print("After bitwise AND:", x)

x | 2
print("After bitwise OR:", x)

x ^ 1
print("After bitwise XOR:", x)

x << 2
print("After bitwise left shift:", x)

x = x >> 1
print("After bitwise right shift:", x)

```

```

After addition: 10
After subtraction: 10
After multiplication: 10
After division: 10
After floor division: 10
After modulus: 10
After exponentiation: 10
After bitwise AND: 10
After bitwise OR: 10
After bitwise XOR: 10
After bitwise left shift: 10
After bitwise right shift: 5

```

[3]: *#Compare two numbers and print the results.*

```

x = 10

```

```
y = 5
print(f"{x} is greater than {y}: {x > y}")
print(f"{x} is less than or equal to {y}: {x <= y}")
```

10 is greater than 5: True
10 is less than or equal to 5: False

[4]: *#Check conditions using logical operators.*

```
x = 5
y = 10
z = 15
print((x < 10 and y > 5) or (z > 10 and x < z))
```

True

[6]: *#Check the identity of variables.*

```
x = 5
y = 5
print(x == y)
```

True

[7]: *#Perform bitwise operations on any two integers.*

#Bitwise AND:

```
x = 10 # 1010 in binary
y = 4  # 0100 in binary
print(x & y)
```

#Bitwise OR:

```
x = 10 # 1010 in binary
y = 4  # 0100 in binary
print(x | y)
```

#Bitwise NOT:

```
x = 10 # 1010 in binary
print(~x)
```

#Bitwise XOR:

```
x = 10 # 1010 in binary
y = 4  # 0100 in binary
```

```
print(x ^ y)
```

```
0  
14  
-11  
14
```

[8]: *#Use unary operators to change the sign of a number.*

```
x = 10  
print(-x)
```

```
-10
```

[9]: *#Use the ternary operator to assign values based on conditions.*

```
x = 5  
y = 10  
if x > y:  
    z = x  
else:  
    z = y  
print(z)
```

```
10
```

[]: