Fill in the Operation and Answer columns for each comparison
- Describe the operation in your own words-

Relational Operator	True / False	Operation	Answer
==	1 + 1 == 2		
!=	3.2 != 2.5		
<	10 < 5		
>	10 > 5		
<=	24 <= 13		
>=	5.0 >= 5.0		

if..elif..else statements

```
# Can you describe the limitations of this algorithm?
temp = -4
print("temp = ", temp)

if (temp > 0) :
    print("Temperature is > 0")

elif (temp > 40) :
    print("Temperature is > 40")

elif (temp >=70) :
    print("Temperature is >= 70")

else :
    print("Temperature is less than zero.")
```

Describe some of the limitations of this alogorithm. Re-design the program to create a more useful and informative User Interface.

Reflect in this section on why your new design is more efficient and better for making decisions. Perhaps include your re-designed code below.

2nd Program to RE-DESIGN using if ..elif ..else statements

```
# ask the user for their first number
userN1 = input("Enter your first number : ")
userN1 = int(userN1)

# ask the user for their second number
userN2 = input("Enter your second number : ")
userN2 = int(userN2)

print("\nFirst Number\t:", userN1)
print("Second Number\t:", userN2,"\n")

#compare both numbers
if userN1 > userN2 :
    print("Your first number is greater than the second.")
if userN1 < userN2 :
    print("Your first number is less than the second.")
if userN1 == userN2 :
    print("Your numbers are equal.")
```

As part of learning conditionals in Python, you were asked to re-design two programs. This is the 2nd re-design. Reflect in this section on why your new design is more efficient and better for making decisions. Perhaps include your re-designed code below.

pseudocode .. for guessing game

```
gameNumber =  a random number between 1 and 5;
userNumber = user's first guess;
if userNumber == gameNumber { print congratulations; }
elif userNumber > gameNumber   { print your guess is too high; }
else { print your guess is too low; }

if userNumber != gameNumber {
        userNumber = user's second guess;
        if userNumber == gameNumber {
                print congratulations; }
        else { print Hard Luck; }
}
```

Some reflection thoughts

Did you write pseudocode for the challenge? **(Learning Outcomes 2.5 and 2.6)**

If you did, include it below. Or include your algorithm?

What were the main challenges in developing a logically correct program? **(LOs 1.4 and 2.20)**

Include some of your first attempts at developing the code. **(LOs 1.22 and 1.23)**

Was it difficult to add a UI to the code? **(LO 2.6 and 2.7)**

pseudo code .. for guessing game

```
generate a random number between 1 and 5;
userNumber = user's first guess;
if userNumber == gameNumber { print congratulations; }
if userNumber > gameNumber  { print your guess is too high; }
if userNumber < gameNumber  { print your guess is too low; }

if userNumber != gameNumber {
        userNumber = user's second guess;
        if userNumber == gameNumber {
                print congratulations; }
        if userNumber != gameNumber {
                print Hard Luck; }
}
```

NESTED if statements

NOTES to YOURSELF