

Summary of Problem Statement**Problem #** 3

You need to design a system which can monitor the current received irradiation data and alert if any cells are reporting outside of the range of their surrounding neighbors.

Known / Input

Dataset = imported data from
'Problem3.csv'
Percent_Diff = user defined percentage
difference

Unknown / Output

r = row of the cell
c = column of the cell
Average = average value of surrounding
cells
Calc_percent_Diff = Calculated percent
difference

Assumptions

User doesn't enter a negative value
for Percent difference

Other Variables

None

Algorithm

Start by importing the dataset
Get the number of rows and columns using size()
use a nested for loop with a while loop in the center to check that each value is less than 1000
if a value is not less than 1000, ask the user to input a new value
Ask the user to input a percent difference that they want
create a nested for loop
place 9 conditional statements in the nested for loop (The conditionals are not nested)
the first 4 conditionals will be used to check the average and percent difference in each corner of the dataset
the second 4 conditionals will be used to check the avg and percent diff on each of the 4 sides
the final conditional will check the average and percent diff of all other values in the dataset
in each if statement add another if statement that will store the row and column along with the
print statement if the Calculated percent difference is greater than the user defined percent
difference

Test Cases

Used Provided test case 900 200 60000 600

Output: Not enough room to type all of it but it worked