

Name: _____

Student#: _____

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Assignment 3

Loops and Arrays

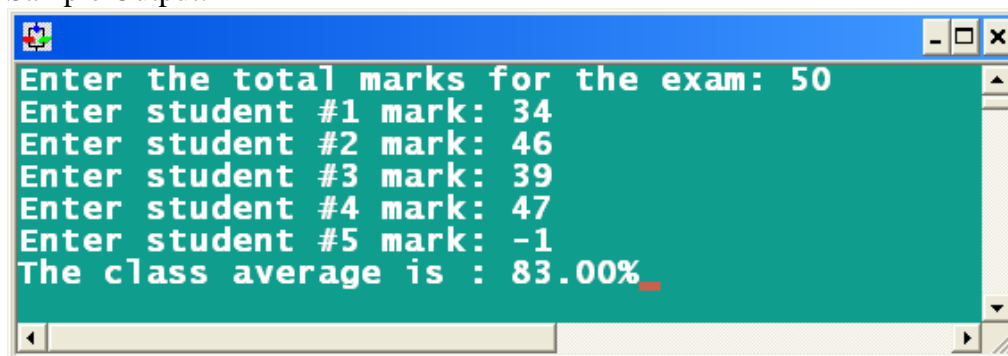
Use Visual Logic to create a flowchart for the following problems. Print out the flowchart for each problem and staple them to this assignment.

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- 1) Mr. Smith is an instructor at NSCC and his students often wish to know the class average of his exams.

Create a program that will allow Mr. Smith to enter what the exam is out of, all the marks for his students and display the average of the marks. Mr. Smith doesn't know the exact number of students he has, so he would like to enter the marks until he types in -1.

Sample Output:



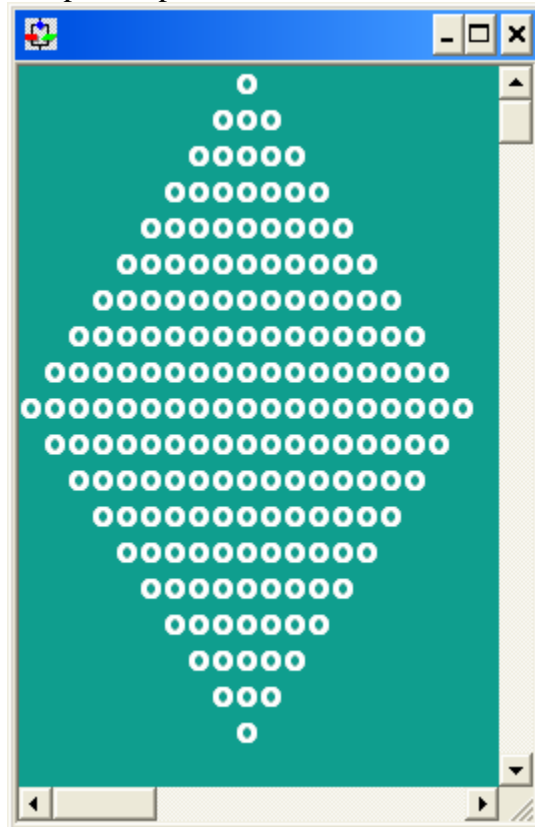
```
Enter the total marks for the exam: 50
Enter student #1 mark: 34
Enter student #2 mark: 46
Enter student #3 mark: 39
Enter student #4 mark: 47
Enter student #5 mark: -1
The class average is : 83.00%
```

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- 2) Write a program, using loops, that generates the following diamond and outputs it to the console.

Note that every line contains an odd number of circles.

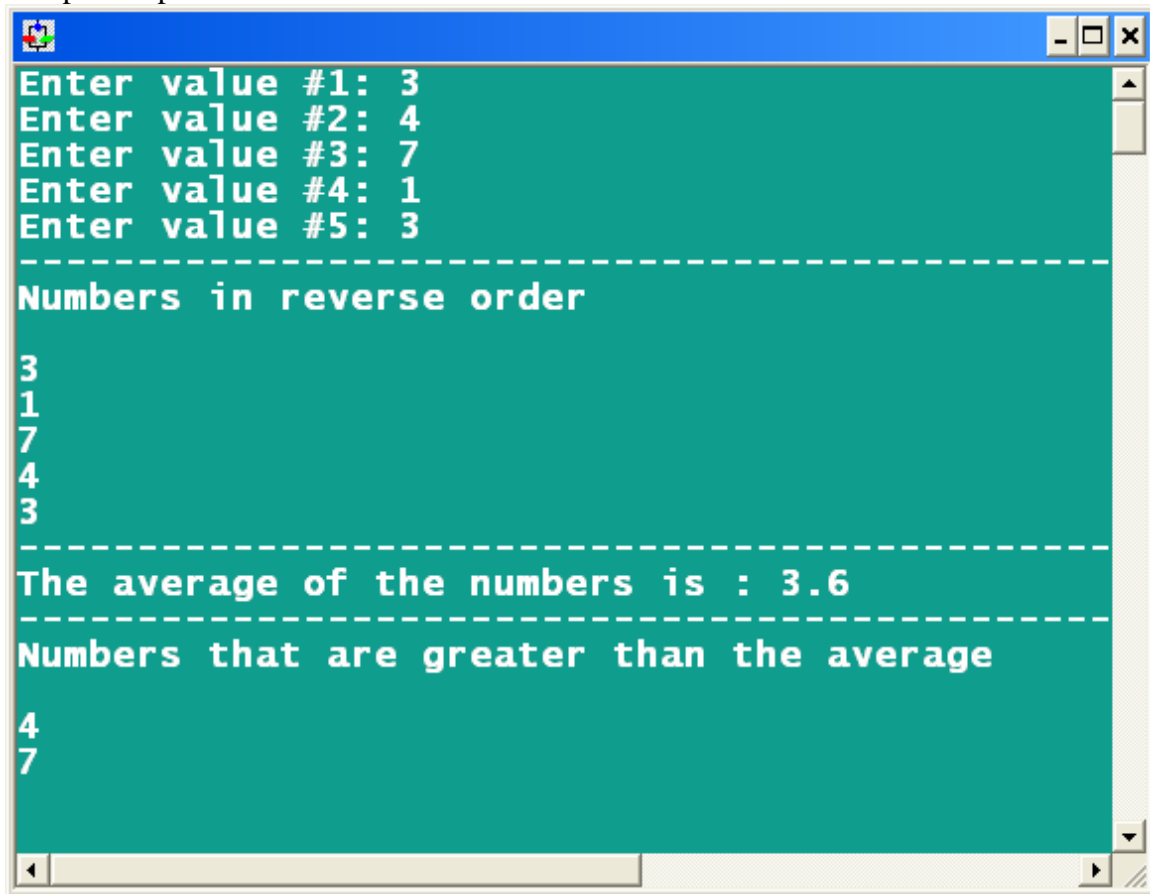
Sample Output:



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- 3) Write a program that accepts five input values and stores them into an array. The program should display those five numbers in reverse order. The program should then display all the numbers in the array that are larger than the average of the five numbers.

Sample Output:



```
Enter value #1: 3
Enter value #2: 4
Enter value #3: 7
Enter value #4: 1
Enter value #5: 3
-----
Numbers in reverse order

3
1
7
4
3
-----
The average of the numbers is : 3.6
-----
Numbers that are greater than the average

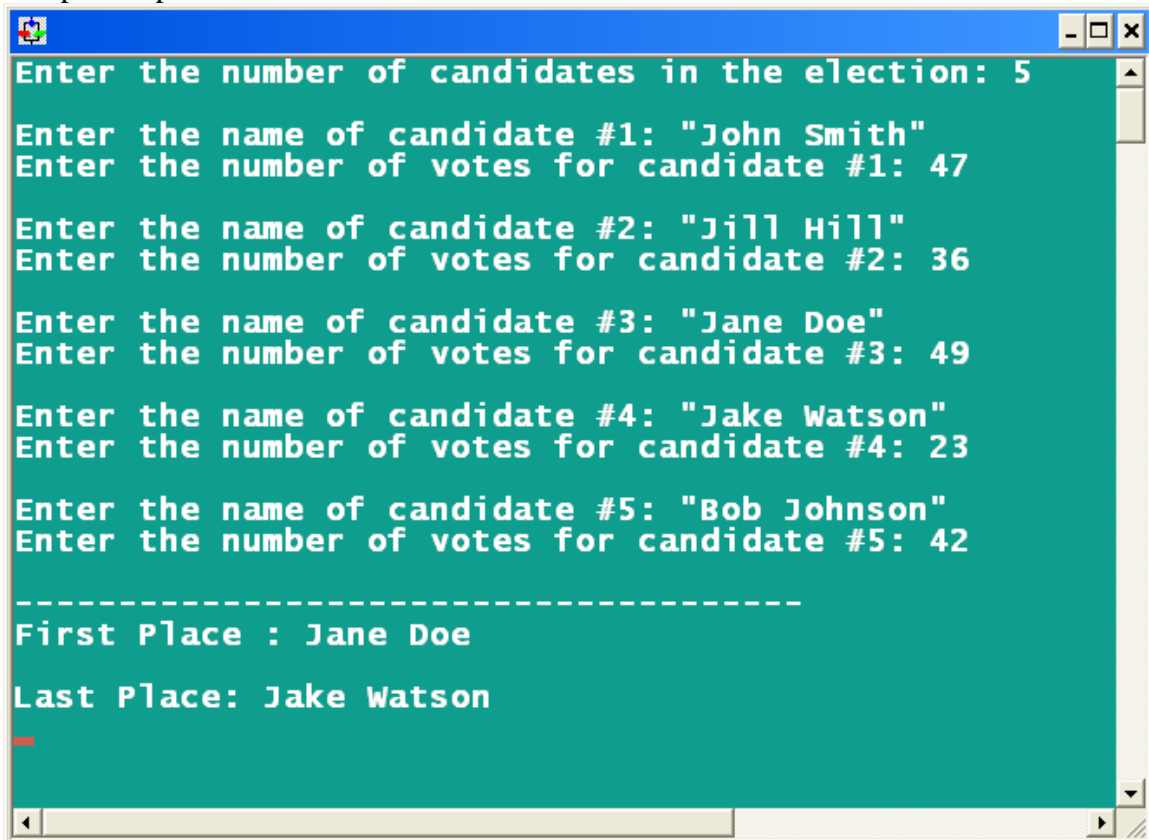
4
7
```

- 4) An election is approaching and the candidates of the election want a program to determine who won the election, as well as who came in last place (in order to laugh at him).

Develop a program that will allow the user to enter in the candidates names and the number of votes that person received. The program will then sort the information and output the names of the big winner and big loser.

(Hint: Use parallel arrays.)

Sample Output:



```
Enter the number of candidates in the election: 5
Enter the name of candidate #1: "John Smith"
Enter the number of votes for candidate #1: 47
Enter the name of candidate #2: "Jill Hill"
Enter the number of votes for candidate #2: 36
Enter the name of candidate #3: "Jane Doe"
Enter the number of votes for candidate #3: 49
Enter the name of candidate #4: "Jake Watson"
Enter the number of votes for candidate #4: 23
Enter the name of candidate #5: "Bob Johnson"
Enter the number of votes for candidate #5: 42

-----
First Place : Jane Doe
Last Place: Jake Watson
```