What the client wants:

Ask the user to enter in scores and the program will calculate the sum and average. It will also identify the smallest and largest scores. Finally, it will determine what letter grade the student received and display how many of each was earned.

Algorithm:

1. Ask the user to enter scores and store the input into an array
2. Use a for loop to move through the array
   1. Total the scores
   2. Average the scores
   3. Find the max score
   4. Find the min score
   5. Determine letter grade in the following manner:

if between 90 and 100, then add 1 to the A tally

Otherwise if between 80 and 89, then add 1 to the B tally

Otherwise if between 70 and 79, then add 1 to the C tally

Otherwise if between 60 and 69, then add 1 to the D tally

Otherwise if below 60, then add 1 to the F tally

1. Display the total, average, max, min, and number of each letter grade received

Pseudocode:

1. Module main()
2. // variables
3. Declare Integer numberOfScores
4. Declare Integer scores
5. Declare Integer sum
6. Set sum=0
7. Declare Integer largest
8. Set largest=smallest possible Integer
9. Declare Integer smallest
10. Set smallest=largest possible Integer
11. //letter grade variables
12. Declare Integer gradeA
13. Set gradeA = 0
14. Declare Integer gradeB
15. Set gradeB = 0
16. Declare Integer gradeC
17. Set gradeC = 0
18. Declare Integer gradeD
19. Set gradeD = 0
20. Declare Integer gradeF
21. Set gradeF = 0
23. // the user inputs the scores
24. Display “How many scores do you have?”
25. Input numberOfScores
26. For i=0 to score length
27. Display “Enter score “ + (i+1)
28. Input scores
29. End For
30. // for loop to move through array
31. For i =0 to score length
32. Set sum=sum+scores[i]
33. if(scores[i]>largest)
34. largest=scores[i]
35. if(scores[n]<smallest)
36. smallest=scores[i]
37. //letter grade conditional statements
38. If score is >=90 and <=100
39. Set gradeA + 1
40. Else
41. If score is >=80 and <90
42. Set gradeB + 1
43. Else
44. If score is >=70 and <80
45. Set gradeC + 1
46. Else
47. If score is >=60 and <70
48. Set gradeD + 1
49. Else
50. If score is <60
51. Set gradeF + 1
52. End If
53. End If
54. End If
55. End IF
56. End For
58. //Display results in a message box
59. Display "Sum: ", sum
60. Display "Average: ", sum/5
61. Display "Largest: ", largest
62. Display "Smallest: ", smallest
63. Display “Number of A’s: “, gradeA
64. Display “Number of B’s: “, gradeB
65. Display “Number of C’s: “, gradeC
66. Display “Number of D’s: “, gradeD
67. Display “Number of F’s: “, gradeF
68. End Module

Flowchart:

