

*Program Cover Sheet*

Name: Alex Coldwell

Assignment: Assignment 5

List any parts of the assignment that do not work/were not completed:  
(None)

Instructor's Comments:

Grade:

Program Submission Requirements: (1) all files, zipped and uploaded to Canvas and (2) a completed cover sheet, program execution screenshots and source code printed, **stapled** and turned in during class. Failure to follow the submission requirements will result in points lost on that particular assignment.

Wrong Path:

```
file:///C:/Users/coldw/Documents/School/CIS 311/Assignment5/bin/Debug/Assignment5.EXE
Please Enter the memory address of the text file
asd
-----
Error File not found!!
-----
Press and Key to Exit..
```

Grade Report

```
file:///C:/Users/coldw/Documents/School/CIS 311/Assignment5/bin/Debug/Assignment5.EXE
Please Enter the memory address of the text file
class.txt
-----
Ve Old Country School
*** Semester Grade Report ***
-----
Name      1      2      3      4      Exam Score      Numeric Grade      Letter Grade
-----
T.R. Alski      24.00      25.00      25.00      23.00      95.50      96.25      A
V.A. Borstellis      25.00      25.00      25.00      25.00      100.00      100.00      A
K.I. Chrint      23.00      23.00      24.00      21.00      89.00      90.00      A-
I.A. Douglas      24.00      23.00      25.00      25.00      95.00      96.00      A
M.A. Elenaiaps      23.00      24.00      23.00      21.00      94.50      95.25      A-
A.L. Emmet      21.00      19.00      18.00      15.00      73.00      73.00      C-
F.R. Franks      23.00      19.00      18.00      23.00      88.50      85.75      B
K.A. Gilch      24.00      23.00      25.00      24.00      92.00      94.00      A-
W.I. Harris      23.00      24.00      25.00      23.00      92.00      93.50      A-
I.E. Interas      24.00      23.00      25.00      25.00      97.50      97.25      A
S.H. Issacs      23.00      24.00      21.00      21.00      93.00      91.00      A-
S.U. James      21.00      24.00      23.00      22.00      87.50      88.75      B+
T.O. Kiliens      23.00      19.00      18.00      18.00      73.00      75.50      C
R.O. Little      23.00      24.00      23.00      24.00      94.00      94.00      A-
E.R. Manrose      23.00      24.00      25.00      23.00      84.00      89.50      B+
W.A. Nelson      23.00      24.00      25.00      23.00      87.00      91.00      A-
B.I. Opus      23.00      24.00      25.00      23.00      97.50      96.25      A-
K.U. Quaras      23.00      24.00      25.00      23.00      96.50      95.75      A
A.S. Reid      20.00      21.00      20.00      18.00      75.00      77.00      C+
H.A. Renee      20.00      23.00      23.00      25.00      88.50      85.75      B
C.U. Tyler      19.00      20.00      21.00      24.00      75.50      79.75      C+
S.C. Ustaf      24.00      23.00      24.00      25.00      91.00      93.50      A-
T.I. Vargo      24.00      23.00      25.00      25.00      99.00      98.00      A
W.I. Walton      24.00      23.00      23.00      19.00      90.00      89.50      B+
S.A. Xerxes      24.00      23.00      25.00      23.00      94.00      94.50      A-
J.E. Yaz      25.00      24.00      23.00      24.00      92.50      94.25      A-
H.E. Zeus      23.00      24.00      23.00      23.00      77.00      85.00      B
```

Grade Distribution Statistics/HomeWork/Exam Grade Range Statistics

```
file:///C:/Users/coldw/Documents/School/CIS 311/Assignment5/bin/Debug/Assignment5.EXE
-----
Grade Distribution Statistics
-----
Those Students Earning a A Grade are:
T.R. Alski --> A
V.A. Borstellis --> A
K.I. Chrint --> A
I.A. Douglas --> A
M.A. Elenaiaps --> A
K.A. Gilch --> A
W.I. Harris --> A
I.E. Interas --> A
S.H. Issacs --> A
R.O. Little --> A
W.A. Nelson --> A
B.I. Opus --> A
K.U. Quaras --> A
S.C. Ustaf --> A
T.I. Vargo --> A
S.A. Xerxes --> A
J.E. Yaz --> A-

Those Students Earning a B Grade are:
F.R. Franks --> B
S.U. James --> B+
E.R. Manrose --> B+
H.A. Renee --> B
W.I. Walton --> B+
H.E. Zeus --> B

Those Students Earning a C Grade are:
A.L. Emmet --> C-
T.O. Kiliens --> C
A.S. Reid --> C+
C.U. Tyler --> C+

Those Students Earning a D Grade are:

Those Students Earning a F Grade are:

-----
HomeWork/Exam Grade Range Statistics
-----
Low Ave High
Homework 1 : 76.00 %.....91.70 %.....100.00
Homework 2 : 76.00 %.....91.70 %.....100.00
Homework 3 : 72.00 %.....92.59 %.....100.00
Homework 4 : 60.00 %.....90.07 %.....100.00
Exam : 73.00 %.....89.04 %.....100.00

The highest course grade of 100 was earned by
V.A. Borstellis --> 100

The lowest course grade of 73 was earned by
A.L. Emmet --> 73
Report Complete please press and Key to Exit..
```

```

1  '-----'
2  '         File name: Module1.vb          -'
3  '         Part of project: Assignment5   -'
4  '-----'
5  '         Written By: Alex Coldwell      -'
6  '         Written On: 02/14/2017         -'
7  '-----'
8  ' File Purpose:                          -'
9  '                                         -'
10 ' This file runs the program. It propts the user to enter in the -'
11 ' location of a text file that contains the grade info for all the- '
12 ' students. It then calls all of the functions to print the grade -'
13 ' report.                                -'
14 '-----'
15 ' Program Purpose:                        -'
16 '                                         -'
17 ' This program allows the user to create a grade report from a -'
18 ' text file that contains the students grade info.              -'
19 '-----'
20 ' Global Variable Dictionary              -'
21 ' (none)                                 -'
22 '-----'
23 Module Module1
24
25     '-----'
26     '         Subprogram Name: Main        -'
27     '-----'
28     '         Written By: Alex Coldwell    -'
29     '         Written On: 02/14/17         -'
30     '-----'
31     ' Sub Purpose:                         -'
32     ' This sub runs the program, first asking the user for an -'
33     ' address to find the text file containing the student info, -'
34     ' storing those students in a list of Students objects. This -'
35     ' sub then prints all of the grade reports to the console using -'
36     ' a variety of subs.                  -'
37     '-----'
38     ' Parameter Dictionary (in parameter order):                -'
39     ' (none)                                                      -'
40     '-----'
41     ' Local Variable Dictionary (alphabetically):                -'
42     ' myStreamReader: Stream reader to read in info from file.   -'
43     ' objClass: List object of students to hold the class.       -'
44     ' strAddress: String to hold the address of the text file.    -'
45     ' strInput: String to hold the input line from the Stream Reader -'
46     '-----'
47     Sub Main()
48         Dim objClass As New List(Of Students)
49         Dim strInput As String = ""
50         Dim strAddress As String = ""
51         Dim myStreamReader As System.IO.StreamReader
52

```

```

53 ' Ask user to enter address of file
54 System.Console.WriteLine("Please Enter the memory address of the text
    file")
55 strAddress = System.Console.ReadLine()
56
57 ' Check if file exists. If not print error, and exit. If it does open
    file
58 If (Not My.Computer.FileSystem.FileExists(strAddress)) Then
59     System.Console.WriteLine(StrDup(22, "-"))
60     System.Console.WriteLine("Error File not found!!")
61     System.Console.WriteLine(StrDup(22, "-"))
62     System.Console.WriteLine("")
63     System.Console.WriteLine("Press and Key to Exit..")
64     System.Console.Read()
65 Else
66     myStreamReader = My.Computer.FileSystem.OpenTextFileReader
        (strAddress)
67
68
69     ' Process file
70     While Not myStreamReader.EndOfStream
71         strInput = myStreamReader.ReadLine()
72         objClass.Add(New Students(strInput))
73     End While
74
75     ' Print Report
76     PrintClassList(objClass)
77     System.Console.WriteLine("")
78     DistributionStat(objClass)
79     RangeStat(objClass)
80     OverallStat(objClass)
81
82     System.Console.WriteLine("Report Complete please press and Key to
        Exit..")
83     System.Console.Read()
84 End If
85
86
87 End Sub
88
89 '-----'
90 ' Subprogram Name: PrintClassList -'
91 '-----'
92 ' Written By: Alex Coldwell -'
93 ' Written On: 02/14/17 -'
94 '-----'
95 ' Sub Purpose: -'
96 ' This sub uses a LINQ to query all the students in objClass -'
97 ' then prints a semester grade report for all the students. -'
98 '-----'
99 ' Parameter Dictionary (in parameter order): -'
100 ' objClass - List of students to be queried from. -'

```

```

101 '-----'
102 '- Local Variable Dictionary (alphabetically): -'
103 '- objQuery: Object to hold the LINQ query. -'
104 '-----'
105 Sub PrintClassList(ByRef objClass As List(Of Students))
106     Dim objQuery As Object
107
108     ' Find all students in objClass and sort them by Last name
109     objQuery = From Student In objClass
110                 Order By Student.strLastName Ascending
111                 Select Student
112
113     ' Print Report Title and Labels
114     System.Console.WriteLine(StrDup(26, " ") & "Ye Old Country School")
115     System.Console.WriteLine(StrDup(22, " ") & "*** Semester Grade Report  ⤴
116         ***")
117     System.Console.WriteLine(StrDup(22, " ") & StrDup(29, "-"))
118     System.Console.WriteLine(StrDup(23, " ") & "Homework Scores" & StrDup(8,  ⤴
119         " ") _
120         & "Exam" & StrDup(3, " ") & "Numeric" & StrDup  ⤴
121         (2, " ") _
122         & "Letter")
123     System.Console.WriteLine(StrDup(6, " ") & "Name" & StrDup(10, " ") _
124         & "1" & StrDup(6, " ") & "2" & StrDup(6, " ") _
125         & "3" & StrDup(6, " ") & "4" & StrDup(4, " ") _
126         & "Score" & StrDup(3, " ") & "Grade" & StrDup(4,  ⤴
127         " ") _
128         & "Grade")
129     System.Console.WriteLine(StrDup(14, "-") & StrDup(4, " ") & StrDup(5,  ⤴
130         "-") _
131         & StrDup(2, " ") & StrDup(5, "-") & StrDup(2, "  ⤴
132         ") _
133         & StrDup(5, "-") & StrDup(2, " ") & StrDup(5,  ⤴
134         "-") _
135         & StrDup(2, " ") & StrDup(5, "-") & StrDup(2, "  ⤴
136         ") _
137         & StrDup(7, "-") & StrDup(2, " ") & StrDup(6,  ⤴
138         "-"))
139
140     ' Print each student and there grade report
141     For Each Student In objQuery
142         System.Console.WriteLine(" " & Student.strInitials & " " & LSet  ⤴
143             (Student.strLastName, 12) _
144             & String.Format("{0:N}",  ⤴
145                 Student.sglHomework1) & " " _
146             & String.Format("{0:N}",  ⤴
147                 Student.sglHomework2) & " " _
148             & String.Format("{0:N}",  ⤴
149                 Student.sglHomework3) & " " _
150             & String.Format("{0:N}",  ⤴
151                 Student.sglHomework4) & " " _
152             & RSet(String.Format("{0:N}",  ⤴

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139         Student.sglExamScore), 6) & " " _
        & RSet(String.Format("{0:N}",
140         Student.sglNumericGrade), 6) & " " _
        & Student.strLetterGrade)
141     Next
142
143 End Sub
144
145 '-----'
146 '           Subprogram Name: DistributionStat           -'
147 '-----'
148 '           Written By: Alex Coldwell                   -'
149 '           Written On: 02/14/17                         -'
150 '-----'
151 ' Sub Purpose:                                           -'
152 '   This sub prints a title then calls PrintGradeDistribution to -'
153 '   Print the grade distribution for each letter.         -'
154 '-----'
155 ' Parameter Dictionary (in parameter order):             -'
156 '   objClass - List of students to be pasted to another sub. -'
157 '-----'
158 ' Local Variable Dictionary (alphabetically):            -'
159 '   (none)                                                -'
160 '-----'
161 Sub DistributionStat(ByRef objClass As List(Of Students))
162
163     ' Print title
164     System.Console.WriteLine(StrDup(73, "-"))
165     System.Console.WriteLine(StrDup(20, " ") & "Grade Distribution -'
166     Statistics")
167     System.Console.WriteLine(StrDup(73, "-"))
168
169     ' Call sub to print a grade Dist. for each letter
170     PrintGradeDistribution(objClass, "A")
171     PrintGradeDistribution(objClass, "B")
172     PrintGradeDistribution(objClass, "C")
173     PrintGradeDistribution(objClass, "D")
174     PrintGradeDistribution(objClass, "F")
175
176 End Sub
177
178 '-----'
179 '           Subprogram Name: PrintGradeDistribution       -'
180 '-----'
181 '           Written By: Alex Coldwell                   -'
182 '           Written On: 02/14/17                         -'
183 '-----'
184 ' Sub Purpose:                                           -'
185 '   This sub LINQ queries the objClass list object to find all the -'
186 '   students who earned the letter grade chrGradeLetter.     -'
187 '-----'
188 ' Parameter Dictionary (in parameter order):             -'
189 '   objClass - List of students to be queried from.         -'

```

```

188     '- chrGradeLetter - char to tell the query which letter it should -'
189     '- look for.                                                         -'
190     '-----'
191     '- Local Variable Dictionary (alphabetically):                       -'
192     '- objQuery - object to hold the LINQ query results.                 -'
193     '-----'
194 Sub PrintGradeDistribution(ByRef objClass As List(Of Students), ByVal chrGradeLetter As Char)
195     Dim objQuery As Object
196
197     ' Find all students with the lettergrade chrGradeLetter
198     objQuery = From Student In objClass
199                 Where Student.strLetterGrade(0) = chrGradeLetter
200                 Order By Student.strLastName Ascending
201                 Select Student
202
203     ' Print all students in objQuery
204     System.Console.WriteLine("Those Students Earning a " & chrGradeLetter & " Grade are:")
205     For Each Student In objQuery
206         System.Console.WriteLine("    " & Student.strInitials & " " & LSet
207                                   (Student.strLastName, 11) _
208                                   & "--> " & Student.strLetterGrade)
209     Next
210     System.Console.WriteLine("")
211 End Sub
212
213     '-----'
214     '- Subprogram Name: RangeStat                                         -'
215     '-----'
216     '- Written By: Alex Coldwell                                         -'
217     '- Written On: 02/14/17                                              -'
218     '-----'
219     '- Sub Purpose:                                                       -'
220     '- This sub prints a title then calls PrintGradeRange to print      -'
221     '- the grade range for each assignment.                             -'
222     '-----'
223     '- Parameter Dictionary (in parameter order):                       -'
224     '- objClass - List of students to be past to other sub.             -'
225     '-----'
226     '- Local Variable Dictionary (alphabetically):                     -'
227     '- (none)                                                            -'
228     '-----'
229 Sub RangeStat(ByRef objClass As List(Of Students))
230
231     ' Print the title
232     System.Console.WriteLine(StrDup(73, "-"))
233     System.Console.WriteLine(StrDup(15, " ") & "Homework/Exam Grade Range Statistics")
234     System.Console.WriteLine(StrDup(73, "-"))
235     System.Console.WriteLine(StrDup(15, " ") & "Low" & StrDup(22, " ") _

```

```

236         & "Ave" & StrDup(22, " ") & "High")
237
238     ' Call sub to print each assignment
239     PrintGradeRange(objClass, "HW1")
240     PrintGradeRange(objClass, "HW2")
241     PrintGradeRange(objClass, "HW3")
242     PrintGradeRange(objClass, "HW4")
243     PrintGradeRange(objClass, "Exam")
244     System.Console.WriteLine("")
245 End Sub
246
247     '-----'
248     '              Subprogram Name: PrintGradeRange              '
249     '-----'
250     '              Written By: Alex Coldwell                    '
251     '              Written On: 02/14/17                        '
252     '-----'
253     ' Sub Purpose:                                             '
254     '   This sub LINQ queries the objClass list object to find the '
255     '   lowest, highest, and average score of assignment strAssignment- '
256     '   The sub then prints the grade range for that assignment.    '
257     '-----'
258     ' Parameter Dictionary (in parameter order):              '
259     '   objClass - List of students to be queried from.        '
260     '   strAssignment - string to tell the sub which assignment to '
261     '   find the Grade Range for.                               '
262     '-----'
263     ' Local Variable Dictionary (alphabetically):              '
264     '   sglAvg - single to hold the average assignment score.    '
265     '   sglMax - single to hold the highest assignment score.    '
266     '   sglMin - single to hold the lowest assignment score.     '
267     '-----'
268 Sub PrintGradeRange(ByRef objClass As List(Of Students), ByVal strAssignment As String) ➤
269     Dim sglMin
270     Dim sglMax
271     Dim sglAvg
272
273     ' Check to see what the user wants to print then find and print the Min, ➤
274     ' Max, and Avg
275     If (strAssignment = "HW1") Then ➤
276         sglMin = Aggregate nums In objClass Into MinScore = Min ➤
277         (nums.sglHomework1)
278         sglAvg = Aggregate nums In objClass Into MinScore = Average ➤
279         (nums.sglHomework1)
280         sglMax = Aggregate nums In objClass Into MaxScore = Max ➤
281         (nums.sglHomework1)
282         System.Console.WriteLine("Homework 1 : " & String.Format("{0:N}", ➤
283         (sglMin * 4)) _
284         & " %" & StrDup(18, ".") & String.Format ➤
285         ("{0:N}", (sglAvg * 4)) _
286         & " %" & StrDup(18, ".") & String.Format ➤

```



```

        ("{0:N}", (sglMax * 4)))
281     ElseIf (strAssignment = "HW2") Then
282         sglMin = Aggregate nums In objClass Into MinScore = Min
                (nums.sglHomework2)
283         sglAvg = Aggregate nums In objClass Into MinScore = Average
                (nums.sglHomework2)
284         sglMax = Aggregate nums In objClass Into MaxScore = Max
                (nums.sglHomework2)
285         System.Console.WriteLine("Homework 2 : " & String.Format("{0:N}",
                (sglMin * 4)) _
286                                 & " %" & StrDup(18, ".") & String.Format
                ("{0:N}", (sglAvg * 4)) _
287                                 & " %" & StrDup(18, ".") & String.Format
                ("{0:N}", (sglMax * 4)))
288     ElseIf (strAssignment = "HW3") Then
289         sglMin = Aggregate nums In objClass Into MinScore = Min
                (nums.sglHomework3)
290         sglAvg = Aggregate nums In objClass Into MinScore = Average
                (nums.sglHomework3)
291         sglMax = Aggregate nums In objClass Into MaxScore = Max
                (nums.sglHomework3)
292         System.Console.WriteLine("Homework 3 : " & String.Format("{0:N}",
                (sglMin * 4)) _
293                                 & " %" & StrDup(18, ".") & String.Format
                ("{0:N}", (sglAvg * 4)) _
294                                 & " %" & StrDup(18, ".") & String.Format
                ("{0:N}", (sglMax * 4)))
295     ElseIf (strAssignment = "HW4") Then
296         sglMin = Aggregate nums In objClass Into MinScore = Min
                (nums.sglHomework4)
297         sglAvg = Aggregate nums In objClass Into MinScore = Average
                (nums.sglHomework4)
298         sglMax = Aggregate nums In objClass Into MaxScore = Max
                (nums.sglHomework4)
299         System.Console.WriteLine("Homework 4 : " & String.Format("{0:N}",
                (sglMin * 4)) _
300                                 & " %" & StrDup(18, ".") & String.Format
                ("{0:N}", (sglAvg * 4)) _
301                                 & " %" & StrDup(18, ".") & String.Format
                ("{0:N}", (sglMax * 4)))
302     ElseIf (strAssignment = "Exam") Then
303         sglMin = Aggregate nums In objClass Into MinScore = Min
                (nums.sglExamScore)
304         sglAvg = Aggregate nums In objClass Into MinScore = Average
                (nums.sglExamScore)
305         sglMax = Aggregate nums In objClass Into MaxScore = Max
                (nums.sglExamScore)
306         System.Console.WriteLine("Exam : " & String.Format("{0:N}",
                sglMin) _
307                                 & " %" & StrDup(18, ".") & String.Format
                ("{0:N}", sglAvg) _
308                                 & " %" & StrDup(18, ".") & String.Format

```

```

309         End If
310
311     End Sub
312
313     '-----'
314     '           Subprogram Name: OverallStat           '
315     '-----'
316     '           Written By: Alex Coldwell             '
317     '           Written On: 02/14/17                 '
318     '-----'
319     ' Sub Purpose:                                   '
320     '   This sub prints a title then the Lowest and Highest overall '
321     '   grade in the class.                           '
322     '-----'
323     ' Parameter Dictionary (in parameter order):      '
324     '   objClass - List of students to be queried from. '
325     '-----'
326     ' Local Variable Dictionary (alphabetically):     '
327     '   objQuery - Object to hold the LINQ query.      '
328     '   sglMax - single to hold the highest score.     '
329     '   sglMin - single to hold the lowest score.     '
330     '-----'
331     Sub OverallStat(ByRef objClass As List(Of Students))
332         Dim sglMin
333         Dim sglMax
334         Dim objQuery As Object
335
336         ' Find max and min scores of final grade
337         sglMin = Aggregate nums In objClass Into MinScore = Min      ↗
338         sglMax = Aggregate nums In objClass Into MaxScore = Max      ↗
339         (nums.sglNumericGrade)
340
341         ' Find all students who had the highest grade
342         objQuery = From Student In objClass
343                     Where Student.sglNumericGrade = sglMax
344                     Order By Student.strLastName Ascending
345                     Select Student
346
347         ' Print all students who had a final grade equal to the highest
348         System.Console.WriteLine("The highest course grade of " & sglMax & " was  ↗
349         earned by")
350         For Each Student In objQuery
351             System.Console.WriteLine("    " & Student.strInitials & " " & LSet  ↗
352             (Student.strLastName, 11) _
353             & "--> " & Student.sglNumericGrade)
354         Next
355         System.Console.WriteLine("")
356
357         ' Find all students who had the lowest score
358         objQuery = From Student In objClass

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```
356         Where Student.sglNumericGrade = sglMin
357         Order By Student.strLastName Ascending
358         Select Student
359
360     ' Print all students who had a final grade equal to the lowset
361     System.Console.WriteLine("The lowest course grade of " & sglMin & " was
    earned by")
362     For Each Student In objQuery
363         System.Console.WriteLine("    " & Student.strInitials & " " & LSet
    (Student.strLastName, 11) _
364             & "--> " & Student.sglNumericGrade)
365     Next
366 End Sub
367 End Module
368
```

```

1  '-----'
2  '      File name: Studnets_Class.vb      '-
3  '      Part of project: Assignment5        '-
4  '-----'
5  '      Written By: Alex Coldwell          '-
6  '      Written On: 02/14/2017             '-
7  '-----'
8  '  File Purpose:                          '-
9  '-----'
10 '  This file contains the Students class it's properties and its  '-
11 '  subroutines.                                                    '-
12 '-----'
13 '  Global Variable Dictionary                                         '-
14 '  strInitials: A string to hold the initials of the student        '-
15 '  strLastName: A string to hold the students last name             '-
16 '  sglHomework1: A single to hold the grade for the first HW        '-
17 '  sglHomework2: A single to hold the grade for the second HW       '-
18 '  sglHomework3: A single to hold the grade for the third HW        '-
19 '  sglHomework4: A single to hold the grade for the fourth HW       '-
20 '  sglExamScore: A single to hold the grade for the exam            '-
21 '  sglNumericGrade: A single to hold the final grade                 '-
22 '  strLetterGrade: A string to hold the letter grade                '-
23 '-----'
24
25 Module Students_Class
26     Class Students
27         ' Variables
28         Public strInitials As String
29         Public strLastName As String
30         Public sglHomework1 As Single
31         Public sglHomework2 As Single
32         Public sglHomework3 As Single
33         Public sglHomework4 As Single
34         Public sglExamScore As Single
35         Public sglNumericGrade As Single
36         Public strLetterGrade As String
37
38         ' Constants
39         Const sglAssignmentWeight As Single = 0.5
40         Const sglGradeA = 95
41         Const sglGradeAMinus = 90
42         Const sglGradeBPlus = 87
43         Const sglGradeB = 85
44         Const sglGradeBMinus = 80
45         Const sglGradeCPlus = 77
46         Const sglGradeC = 74
47         Const sglGradeCMinus = 70
48         Const sglGradeDPlus = 67
49         Const sglGradeD = 64
50         Const sglGradeDMinus = 60
51
52

```

```

53      '-----'
54      '           Subprogram Name: New           '
55      '-----'
56      '           Written By: Alex Coldwell      '
57      '           Written On: 02/14/17           '
58      '-----'
59      ' Sub Purpose:                             '
60      '   This sub is triggered when the user creates a new instance '
61      '   of students. It takes a string and parses it into the '
62      '   properties of the class instance. It then calls subs to find '
63      '   the final grade and letter grade.      '
64      '-----'
65      ' Parameter Dictionary (in parameter order): '
66      '   strInput - String to hold the line to be parsed. '
67      '-----'
68      ' Local Variable Dictionary (alphabetically): '
69      '   strInputArray - Array of strings to hold the parsed data '
70      '-----'
71      Public Sub New(ByVal strInput As String)
72          Dim strInputArray(7) As String
73          strInputArray = strInput.Split(" ")
74
75          strInitials = strInputArray(0)
76          strLastName = strInputArray(1)
77          sglHomework1 = CSng(strInputArray(2))
78          sglHomework2 = CSng(strInputArray(3))
79          sglHomework3 = CSng(strInputArray(4))
80          sglHomework4 = CSng(strInputArray(5))
81          sglExamScore = CSng(strInputArray(6))
82
83          ' Call to find Final and Letter Grade
84          FindFinalGrade()
85          FindLetterGrade()
86
87      End Sub
88
89      '-----'
90      '           Subprogram Name: FindFinalGrade '
91      '-----'
92      '           Written By: Alex Coldwell      '
93      '           Written On: 02/14/17           '
94      '-----'
95      ' Sub Purpose:                             '
96      '   This sub uses the properties of the class object to find the '
97      '   final overall grade. '
98      '-----'
99      ' Parameter Dictionary (in parameter order): '
100     '   (none) '
101     '-----'
102     ' Local Variable Dictionary (alphabetically): '
103     '   sglFinal - single to hold the final overall grade. '
104     '   sglHomeworkOverall - single to hold the over grade for homework-'

```

```

105 '-----'
106 Private Sub FindFinalGrade()
107     Dim sglFinal As Single
108     Dim sglHomeworkOverall As Single = 0
109
110     ' Find Overall grade for Homework
111     sglHomeworkOverall += sglHomework1
112     sglHomeworkOverall += sglHomework2
113     sglHomeworkOverall += sglHomework3
114     sglHomeworkOverall += sglHomework4
115
116     ' Add weighted grades to the total
117     sglFinal = (sglHomeworkOverall * sglAssignmentWeight) + (sglExamScore *
        * sglAssignmentWeight)
118     sglNumericGrade = sglFinal
119
120 End Sub
121
122 '-----'
123 '           Subprogram Name: FindLetterGrade           '
124 '-----'
125 '           Written By: Alex Coldwell                   '
126 '           Written On: 02/14/17                       '
127 '-----'
128 ' Sub Purpose:                                         '
129 '   This sub uses the properties of the class object to find the '
130 '   letter grade the student earned.                   '
131 '-----'
132 ' Parameter Dictionary (in parameter order):          '
133 '   (none)                                             '
134 '-----'
135 ' Local Variable Dictionary (alphabetically):          '
136 '   (none)                                             '
137 '-----'
138 Private Sub FindLetterGrade()
139     If (sglNumericGrade >= sglGradeA) Then
140         strLetterGrade = "A"
141     ElseIf (sglNumericGrade < sglGradeA And sglNumericGrade >=
        sglGradeAMinus) Then
142         strLetterGrade = "A-"
143     ElseIf (sglNumericGrade < sglGradeAMinus And sglNumericGrade >=
        sglGradeBPlus) Then
144         strLetterGrade = "B+"
145     ElseIf (sglNumericGrade < sglGradeBPlus And sglNumericGrade >=
        sglGradeB) Then
146         strLetterGrade = "B"
147     ElseIf (sglNumericGrade < sglGradeB And sglNumericGrade >=
        sglGradeBMinus) Then
148         strLetterGrade = "B-"
149     ElseIf (sglNumericGrade < sglGradeBMinus And sglNumericGrade >=
        sglGradeCPlus) Then
150         strLetterGrade = "C+"

```

```
151         ElseIf (sglNumericGrade < sglGradeCPlus And sglNumericGrade >=
152             sglGradeC) Then
153             strLetterGrade = "C"
154         ElseIf (sglNumericGrade < sglGradeC And sglNumericGrade >=
155             sglGradeCMinus) Then
156             strLetterGrade = "C-"
157         ElseIf (sglNumericGrade < sglGradeCMinus And sglNumericGrade >=
158             sglGradeDPlus) Then
159             strLetterGrade = "D+"
160         ElseIf (sglNumericGrade < sglGradeDPlus And sglNumericGrade >=
161             sglGradeD) Then
162             strLetterGrade = "D"
163         ElseIf (sglNumericGrade < sglGradeD And sglNumericGrade >=
164             sglGradeDMinus) Then
165             strLetterGrade = "D-"
166         Else
167             strLetterGrade = "F"
168         End If
169     End Sub
170 End Class
171 End Module
172
```