

```
1 // Attached:
2 // File      :
3 // =====
4 // Programmer: Ashley Syhongpan
5 // Class      : CS 1B
6 // Instructor: Med Mogasemi
7 // =====
8 // Program: Temperature Average (HW_1b)
9 // =====
10 // Description:
11 // User inputs three temperatures of three
12 // cities and the program calculates and
13 // displays its average.
14 // =====
15 // =====
16
17 #include <iostream>
18 #include <iomanip>
19 using namespace std;
20
21 // function prototypes
22 void getTemps(float& temp1, float& temp2, float& temp3);
23
24 float calcAvg(float temp1, float temp2, float temp3);
25
26 void displayAvg(float avg);
27
28 // =====
29 // ==== main =====
30 // =====
31 int main()
32 {
33     float temp1 = 0;
34     float temp2 = 0;
35     float temp3 = 0;
36     float avg = 0;
37
38     // function used to prompt the user for three temps.
39     getTemps(temp1, temp2, temp3);
40
41     // function used to return average of the three temps.
42     avg = calcAvg(temp1, temp2, temp3);
43
44     // function used to display the average
45     displayAvg(avg);
46
47 } // END - int main()
48 // =====
49
```

```
50
51
52
53 // =====
54 // ===== function declaration =====
55 // =====
56
57 // ===== getTemps =====
58 // This function prompts the user for the temperature
59 // of 3 cities which is then passed by reference back
60 // to int main().
61 //
62 // Input:
63 // Temperature of three cities.
64 //
65 // Output:
66 //
67 // =====
68 void getTemps(float& temp1, float& temp2, float& temp3)
69 {
70     cout << "Enter temperatures of 3 cities.\n";
71
72     cout << "#1:  ";
73     cin  >> temp1;
74
75     cout << "#2:  ";
76     cin  >> temp2;
77
78     cout << "#3:  ";
79     cin  >> temp3;
80 } // END - getTemps()
81 // =====
82
83
84
85
86 // ===== calcAvg =====
87 // This function calculates the average of three
88 // temperatures.
89 //
90 // Input:
91 // Temperature of three cities.
92 //
93 // Output:
94 // Average temperature between the three cities.
95 // =====
96 float calcAvg(float temp1, float temp2, float temp3)
97 {
98     return (temp1 + temp2 + temp3) / 3;
```

```
99 } // END - calcAvg()
100 // =====
101
102
103
104
105 // ==== displayAvg =====
106 // This function displays the average temperature between
107 // the three citites.
108 //
109 // Input:
110 // Average temperature.
111 //
112 // Output:
113 // Average temperature.
114 // =====
115 void displayAvg(float avg)
116 {
117     cout << fixed;
118     cout << setprecision(1);
119     cout << "The average temperature is " << avg << " degrees.";
120     cout << setprecision(2);
121     cout << scientific;
122 } // END - displayAvg()
123 // =====
124
125 /* ===== Output =====
126 Enter temperatures of 3 cities.
127 #1:  77.5
128 #2:  82.5
129 #3:  71.0
130 The average temperature is 77.0 degrees.
131 C : \Users\ashle\source\repos\HW_1b\x64\Debug\HW_1b.exe(process 22488)
    exited with code 0.
132 Press any key to close this window . . .
133 */
```