

```

1  /*****
2  * Program Name:      Planetary Weights Converter; Galactic v281.29 (planconv.exe)
3  * Course:           CIS-61, C++ Language Programming
4  * Instructor:       C. Polen
5  * Project:          Assignment 1
6  * Created Date:     August 29th, 2010
7  * Due Date:         September 3rd, 2010
8  * Created By:       Chad Philip Johnson
9  * Purpose:          Convert a person's or object's weight from standard Earth gravities of other planetary objects within our
10                      solar system
11  * Editor/IDE:       Notepad++
12  * Resoluton:        1024x768
13  * Compiler:         MinGW C++
14  * Acknowledgements: None
15  *****/
16
17  #include <iostream>
18  #include <iomanip> //for setw
19  using namespace std;
20
21  /*****
22  * Function Name:     main()
23  * Parameters:        None
24  * Return Value:     int
25  * Purpose:           Main program
26  *****/
27
28  int main()
29  {
30      float          fltWeightInput;
31      char           chrContinuePrompt;
32
33      cout << endl << endl << "Planetary Weights Converter; Galactic v281.29" << endl << endl; //Print full name of program
34
35      do {
36          cout << "Please enter the weight to be converted (in pounds): "; //Prompt user for input
37          cin >> fltWeightInput; //Input variable of type float
38
39          if (fltWeightInput < 0) //Ensure value is not an invalid negative weight
40              {
41                  cout << endl << "The inputted value cannot have negative weight." << endl << endl; //Warning message
42                  continue; //Restart loop
43              }
44
45          cout << endl << "A weight of " << fltWeightInput
46              << " lbs on Earth converts to the following values throughout our solar system..." << endl; //Print output and values

```

```
47
48 //Calculations for each value are performed while printing output
49 cout << setw(10) << "Sun =" << setw(20) << fltWeightInput * 27.9 << endl;
50 cout << setw(10) << "Mercury =" << setw(20) << fltWeightInput * 0.38 << endl;
51 cout << setw(10) << "Venus =" << setw(20) << fltWeightInput * 0.91 << endl;
52 cout << setw(10) << "Earth =" << setw(20) << fltWeightInput * 1.0 << endl;
53 cout << setw(10) << "Moon =" << setw(20) << fltWeightInput * 0.17 << endl;
54 cout << setw(10) << "Mars =" << setw(20) << fltWeightInput * 0.38 << endl;
55 cout << setw(10) << "Jupiter =" << setw(20) << fltWeightInput * 2.54 << endl;
56 cout << setw(10) << "Saturn =" << setw(20) << fltWeightInput * 1.08 << endl;
57 cout << setw(10) << "Uranus =" << setw(20) << fltWeightInput * 0.91 << endl;
58 cout << setw(10) << "Neptune =" << setw(20) << fltWeightInput * 1.19 << endl;
59 cout << setw(10) << "Pluto =" << setw(20) << fltWeightInput * 0.06 << endl;
60
61     cout << "Would you like to perform another conversion? (y/n): "; //Prompt user to perform another conversion
62     cin >> chrContinuePrompt; //User response character (NOTE: Causes undesirable program behavior if more than one character)
63 } while (chrContinuePrompt != 'n' && chrContinuePrompt != 'N'); //End loop if user response is the character 'n' or 'N'
64
65 cout << "Goodbye!" << endl; //End program
66 return 0;
67 }
68
```