Subject: CP2406

Assessment: Practical 1

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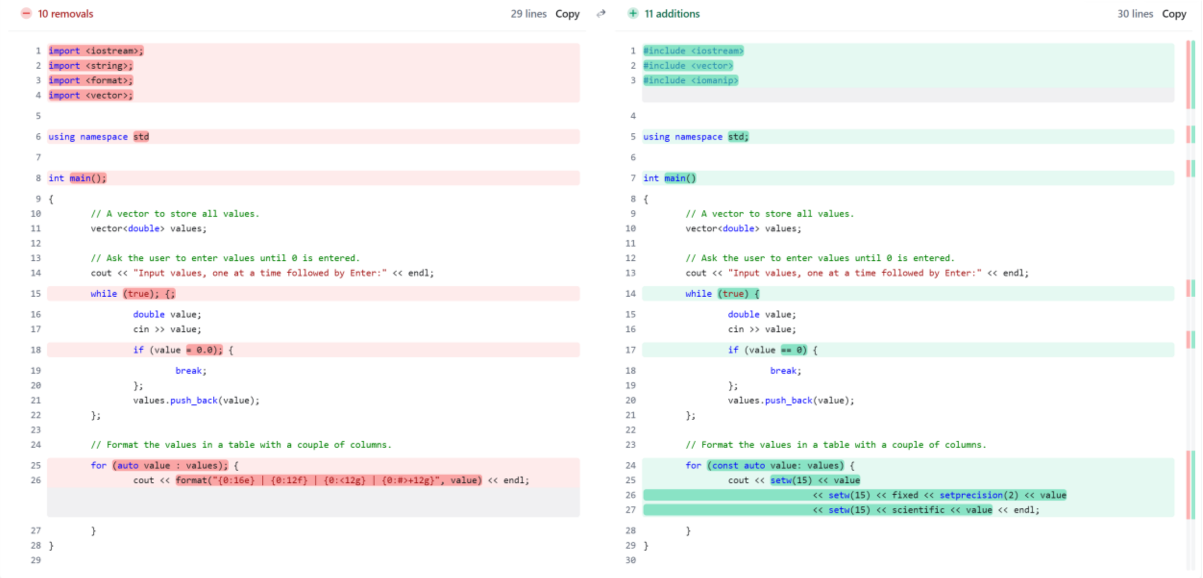
Task 1-4a

Code in attached zip file.

Working with Task 4b

- While comparing to a float zero (line 17) works, it’s inefficient compared to using an integer zero due to unnecessary memory usage.
- The extra semicolons are harmless as they represent empty statements (no-ops).
- Other changes were necessary to ensure the program runs.
    - `import` isn’t fully supported by MinGW on Windows
    - Some semicolons were misplaced, while others were missing where required
    - The `format` library didn’t compile, (I believe) due to MinGW’s incompatibility, so I switched to `iomanip`.



```
 1 import <iostream>;
 2 import <string>;
 3 import <format>;
 4 import <vector>;
 5
 6 using namespace std
 7
 8 int main();
 9 {
10         // A vector to store all values.
11         vector<double> values;
12
13         // Ask the user to enter values until 0 is entered.
14         cout << "Input values, one at a time followed by Enter:" << endl;
15         while (true); {;
16                 double value;
17                 cin >> value;
18                 if (value = 0.0); {
19                         break;
20                 };
21                 values.push_back(value);
22         };
23
24         // Format the values in a table with a couple of columns.
25         for (auto value : values); {
26                 cout << format("{0:16e} | {0:12f} | {0:<12g} | {0:#>+12g}", value) << endl;
27         }
28 }
29
```

```
 1 #include <iostream>
 2 #include <vector>
 3 #include <iomanip>
 4
 5 using namespace std;
 6
 7 int main()
 8 {
 9         // A vector to store all values.
10         vector<double> values;
11
12         // Ask the user to enter values until 0 is entered.
13         cout << "Input values, one at a time followed by Enter:" << endl;
14         while (true) {
15                 double value;
16                 cin >> value;
17                 if (value == 0) {
18                         break;
19                 };
20                 values.push_back(value);
21         };
22
23         // Format the values in a table with a couple of columns.
24         for (const auto value: values) {
25                 cout << setw(15) << value
26                                     << setw(15) << fixed << setprecision(2) << value
27                                     << setw(15) << scientific << value << endl;
28         }
29 }
30
```