```cpp
/*
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 *
 * Program Description:
 *  This program reads and STL file and prints the facet info and
 *  vertice coordinates to the console. At the end, summary statistics
 *  are recorded for number of facet's and min/max coordinate points.
 */
#include <iostream> // input/output library
#include <fstream> // file library
#include <sstream>
#include <string> // string library
#include <iomanip> // for setprecision()

#define BOUND 10000 // arbitrary min/max value.

using namespace std;

int main(){
    int number_of_facets = 0;
    int vertice = 1;
    double value = 0.0; // working value;
    double min[3] = {BOUND, BOUND, BOUND}; // x, y , z
    double max[3] = {-BOUND, -BOUND, -BOUND}; // x, y , z
    string filename, line, word, cord; // working strings

    // get and open file
    cout << "Enter STL file name: ";
    cin >> filename;
    ifstream myfile;
    myfile.open (filename.c_str());

    while(!myfile.eof()){ //parse file line by line
        getline(myfile, line);
        istringstream ss(line);
        ss >> word; // get the first word

        // you only need to check the first word to determine the line
        if(word.compare("facet") == 0){
            number_of_facets += 1;
```

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43              cout << "facet" << number_of_facets << endl;
44              vertice = 1; // reset vertice number
45          }else if(word.compare("vertex") == 0){
46              // if the line is a vertex, read the next 3
    values
47              for(int i = 0; i<3; i++){
48                  ss >> value;
49                  // determine if each value is min/max?
50                  max[i] = (value>max[i]) ? value: max[i];
51                  min[i] = (value<min[i]) ? value : min[i];
52                  cord = i==0 ? "x" : i==1 ? "y" : "z"; //
    determine which x,y,z
53                  cout << fixed << setprecision(3) << "  "
     << cord << vertice << ": ";
54                  (value >= 0) ? cout << "+" << value : cout
     << value; //print + for positive
55              }
56              cout << endl;
57              vertice += 1; // increment facet vertice number
58          }
59      } // end reading lines
60
61      myfile.close(); // close file
62
63      //print summary statistics
64      cout << endl;
65      cout << "|SUMMARY STATISTICS|" << endl;
66      cout << endl;
67      cout << "number of facet's:" << number_of_facets <<
    endl;
68      cout << fixed << setprecision(3) <<
69       "min| x:" << min[0] << " y:" << min[1] << " z:" << min
    [2] << endl;
70      cout << fixed << setprecision(3) <<
71       "max| x:" << max[0] << " y:" << max[1] << " z:" << max
    [2] << endl;
72      return 0;
73  }
74
```