Project 12

due at midnight on Sun Dec 18 (60 points)

For this project, we will explore structured data. Based on the sample code for employees provided in class, you should declare a vector of employees and fill it with data representing 4-5 people.

Then your program should sort the data in different ways – by name, by salary, by ID number, by hire date – and print the results. Here's the output of my solution (which didn't include the date structure):

```
SORTED BY LAST NAME
  29837 Barton          Frank                $43,560
  29999 Cline           Kim               $1,038,094
  29570 Middleton       Zoltan              $931,352
  29140 Zarkov          Alice                $87,100

SORTED BY SALARY
  29999 Cline           Kim               $1,038,094
  29570 Middleton       Zoltan              $931,352
  29140 Zarkov          Alice                $87,100
  29837 Barton          Frank                $43,560

SORTED BY FIRST NAME
  29140 Zarkov          Alice                $87,100
  29837 Barton          Frank                $43,560
  29999 Cline           Kim               $1,038,094
  29570 Middleton       Zoltan              $931,352

SORTED BY ID NUMBER
  29140 Zarkov          Alice                $87,100
  29570 Middleton       Zoltan              $931,352
  29837 Barton          Frank                $43,560
  29999 Cline           Kim               $1,038,094
```

Here's a sketch of a technique for sorting a vector in C++. It uses a built-in `sort` function, but you will need to define and provide the sort criterion as a function:

```
#include <algorithm> // Needed for sort

// Define struct employee and other functions
```

```
// Define sort criteria as boolean functions
// comparing two employees. For example:
bool byLastName(employee e1, employee e2)
{
    return e1.lastName < e2.lastName;
}

int main()
{
    vector<employee> team = // ... Initialize yourself ...

    // To sort:
    sort(team.begin(), team.end(), byLastName);
    // Now the order of entries in the team vector
    // has been rearranged, so you can print them.

    return 0;
}
```

Name your program `p12sort.cpp` and submit to this dropbox.