QUESTION 1

IPC144 Final Assessment Take-Home Question

- This question can be done by a group of students from 1 to 3 members. Groups of 4 members or larger will all receive zero on this portion of the final assessment.
- The Ontario weather service manages precipitation data for various regions in the province. The weather data is stored in a file (partially shown below – there are 96 records in total) and a program is needed that will summarize the contents of the file in various ways.
- Your job is to write the program (create the necessary modules, functions, macro's, logic, etc.) that will produce correct data summaries and formatted output similar to that shown in the provided sample output text file attached to this question. Your program should be able to accommodate varying data file sizes up to a maximum 250 records.
- You MUST use the following function to read the data file and you are not allowed to make any changes to the function. This means that you will have to create the correct data structures required by the function.

File Reading Function

```
int importWeatherDataFile(FILE* fp, struct WeatherRecord* data, int max)
{
   int recs = 0;

   if (fp != NULL)
   {
      while (recs < max &&
          fscanf(fp, "%d,%d,%lf,%c,%d,%15[^\n]\n",
              &data[recs].date.year, &data[recs].date.month,
              &data[recs].precipAmt, &data[recs].unit,
              &data[recs].location.regionCode,
              data[recs].location.name) == 6)
      {
         recs++;
```

```
        }
    }

    return recs;
}
```