INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY,

SHIBPUR

DATABASE MANAGEMENT SYSTEM LAB

ASSIGNMENT 1

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ENROLLMENT NO: 2020CSB038

GROUP: GX

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GITHUB LINK: iamastik/DBMS (github.com)

CODE IN C++: (main.cpp file)

```
#include <bits/stdc++.h>
#include <fstream>
using namespace std;

string product_code(string res){
   int count = 0;
   string temp;
   for (int i = 0; i < res.length(); i++) {
      if (res[i] == ' ' ) {
            count++;
      }
      if (count == 2)
      {
         temp.push_back(res[i]);
      }
   }
   return temp;
}
// Function which takes input from the user all the prices
vector<vector<string>>helper(vector<string> res,unordered_map<string,int>&m)
{
   unordered_set<string>unique_product;   // To store all the unique product code
   vector<vector<string>> ans;
   for (int i = 0; i < res.size(); i++)
   {
      if(unique_product.find(product_code(res[i]))!=unique_product.end())
         continue;
      else{
      vector<string> tempo;
      int k;
      cout << "Enter Price of " << product_code(res[i]) << " : ";
         cin >> k;
      tempo.push_back(res[i]);
      tempo.push_back(to_string(k));
      m[product_code(res[i])] = k;
```

```
      ans.push_back(tempo);
      unique_product.insert(product_code(res[i]));
      }
   }
   return ans;
}

// Function used for extracting region form the vector of string
vector<string> regionExtraction(vector<string>myStr,int reg){
   vector<string>vec;
   for(int i=0;i<myStr.size();i++){
      if(myStr[i][0]-'0' == reg)
         vec.push_back(myStr[i]);
      }
   return vec;
}

// Function for Extraction of Salesman from the vector of string
unordered_map<int,vector<string>> salesmanExtraction(vector<string>myStr){
   unordered_map<int,vector<string>>m;
   for(int i=0;i<myStr.size();i++){
      m[myStr[i][2]-'0'].push_back(myStr[i]);
   }
   return m;
}

// Function for getting price by passing product_code
// int getPrice(string str){


// }
// Function Used fro calculating number of price sold
int getNumber(string str){
   int count=0;
   string res;
   for(int i=0;i<str.length();i++){
      if(str[i]==' ')
         count++;
```

```
        if(count ==3){
            res.push_back(str[i]);
        }
    }
    return stoi(res);
}
// Function used for calculating total selling price
int calculateTotal(vector<string>myStr,unordered_map<string,int>m){
    int total = 0;
    for(int i=0;i<myStr.size();i++){
        total += m[product_code(myStr[i])]*getNumber(myStr[i]);
    }
    return total;
}

int main()
{
    ifstream file;
    file.open("temp.txt");
    string resStr;
    vector<string> myStr;
    while (getline(file,resStr))
    {
        myStr.push_back(resStr);
    }
    unordered_map<string,int>price;



    vector<vector<string>> ans = helper(myStr,price);


    /*
    for (int i = 0; i < ans.size(); i++)
    {
        for (int j = 0; j < ans[i].size(); j++)
        {
            cout << ans[i][j] << " ";
        }
```

```
        cout << endl;
    }
    */
    file.close();
    ofstream final_file;
    final_file.open("answer.txt");
    for (int i = 0; i < ans.size(); i++)
    {
       string f = ans[i][0];
       string l = ans[i][1];
       final_file << f << "|" << l << endl;
    }
    ofstream f_file;
    f_file.open("Report.txt");
    f_file<<"\t\t\t Astik Gorai\t\t"<<endl;
    f_file<<"\t\t\t2020CSB038"<<endl;

    f_file<<"\t\tReport for Salesman for Each Region"<<endl;
    for(int i=1;i<=4;i++){
       f_file<<"\n\t\t\tRegion : "<<i<<endl<<endl;
       vector<string> vec = regionExtraction(myStr,i);
       // f_file<<getNumber(myStr[i])<<endl;
       for(int j=1;j<7;j++){
       unordered_map<int,vector<string>> salesMan = salesmanExtraction(vec);
       f_file<<"Sales Man "<<j<<" : "<<calculateTotal(salesMan[j],price)<<endl;
       }
       f_file<<"Total Sale in Region "<<i<<" is: "<<calculateTotal(vec,price)<<endl;
    }
    f_file.close();
    final_file.close();
    // ofstream report;
    // report.open("Report.txt");

    return 0;
}
```

INPUT FILE: (temp.txt)

1 2 Pencil 6

2 4 Book 8

1 6 Pen 1

2 3 Pen 45

1 3 Pencil 10

3 6 Pen 4

4 5 Book 10

3 2 Pen 67

Input Price Saved as file by the programme:

1 2 Pencil 6|5

2 4 Book 8|250

1 6 Pen 1|30

Report file as output:

Astik Gorai

2020CSB038

Report for Salesman for Each Region

Region : 1

Sales Man 1 : 0

Sales Man 2 : 30

Sales Man 3 : 50

Sales Man 4 : 0

Sales Man 5 : 0

Sales Man 6 : 30

Total Sale in Region 1 is: 110

Region : 2

Sales Man 1 : 0

Sales Man 2 : 0

Sales Man 3 : 1350

Sales Man 4 : 2000

Sales Man 5 : 0

Sales Man 6 : 0

Total Sale in Region 2 is: 3350

Region : 3

Sales Man 1 : 0

Sales Man 2 : 2010

Sales Man 3 : 0

Sales Man 4 : 0

Sales Man 5 : 0

Sales Man 6 : 120

Total Sale in Region 3 is: 2130

Region : 4

Sales Man 1 : 0

Sales Man 2 : 0

Sales Man 3 : 0

Sales Man 4 : 0

Sales Man 5 : 2500

Sales Man 6 : 0

Total Sale in Region 4 is: 2500