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[CPSC 230]

Chapter 6- Homework (150 points)

**Note: Submit your homework document in the inbox (chapter 6 HW).
For the program code, write the code and the output.**

Q1(25pts)

TRUE/FALSE

1. Two different objects of the same class have a different set of member functions.
FALSE
2. You may not have more than one input and one output stream open at any one time.
FALSE
3. The formatting options that were discussed for cout do not work for output file streams. **FALSE**
4. Streams may be passed to a function. **TRUE**
5. You may use a read (extraction) as a Boolean expression in an if or while statement.
TRUE

Q2 (25pts)

1. A function that is associated with an object is called a **___C. member___** function.
 - a. input
 - b. output
 - c. member**
 - d. instantiated
2. Which of the following is the correct way to close a file stream named outFile? **A**
 - a. outFile.close();**
 - b. outFile.close;
 - c. outFile.close("project.txt");
 - d. close(outFile);
3. After a stream is opened, before it is used for input and output, it should be **C**
 - a. declared
 - b. closed
 - c. checked to see if it opened correctly**
 - d. none of the above
4. Which of the following is the correct way to determine if a file stream named inFile opened correctly? **B**
 - a. if(inFile.open())
 - b. if(inFile.fail())**
 - c. if(inFile.opened())
 - d. if(inFile.failed())
5. If a file did not open correctly, you should **C**
 - a. continue on anyway
 - b. display an error message and continue on**

- c. display an error message and take some suitable action such as exit
 - d. exit the program immediately
- ANSWER:

Q3- (50pts)

- Write a program to read the data from babynames2012.txt and

1. Print out on another files "top_common_10 names.txt" the top ten popular boys and girls names.
2. Print out on another files "least common_10 names.txt" the least ten popular boys and girls names.

```
//CPSC 230 RAVI PATEL BABYNAMES CODE CH 6 Q3
#include <iostream>
#include <fstream>
#include <string>

using namespace std;

const int numLines = 1000;    // number of lines in the file

int main() {
    int i; //int for number of lines in file, used below

    ifstream inStream; //Declare inputstream
    ofstream outStreamTop; //Declare output stream top
    ofstream outStreamLeast; //Declare output stream Least

    inStream.open("babynames2012.txt"); //open files declared above
    outStreamTop.open("top_common_10 names.txt", ios::app);
    outStreamLeast.open("least common_10 names.txt", ios::app);

    if (inStream.fail()) //if error opening file
    {
        cout << "Error opening! - babynames2012.txt." << endl;
        exit(1);
    }
    if (outStreamTop.fail()) //if error opening file
    {
        cout << "Error opening! - top_common_10 names.txt." << endl;
        exit(1);
    }
    if (outStreamLeast.fail()) //if error opening file
    {
        cout << "Error opening! - least common_10 names.txt." << endl;
        exit(1);
    }

    for (i=0; i<numLines;i++) //for loop, 1000 iterations (declared above)
    {
        int rank; //declare int for rank
        string boyName, girlName; //declare boys and girls names
        inStream >> rank; //first string in set is equal to rank
        inStream >> boyName; //second string in set is equal to boyName
```

```

inStream >> girlName; //last string in set of line is equal to girlName

for (int j = 0; j<=10; j++){ //for the top 10 common names, append
if (rank == j)
{
    //cout<<boyName<<"\t"<<girlName<<endl; //used in debugging
    outStreamTop<<boyName<<"\t"<<girlName<<endl;
}
}

for (int k = 991; k<=1000; k++){ //for the least 10 common names, append
    if (rank == k)
    {
        //cout<<boyName<<"\t"<<girlName<<endl; //used in debugging
        outStreamLeast<<boyName<<"\t"<<girlName<<endl;
    }
}

}

inStream.close(); //Close the input stream
outStreamTop.close(); //Close the output Top stream
outStreamLeast.close(); //Close the output Least stream
return 0; //catch all
}

```

using given baby names file from d21 -

in file top_common_10 names.txt:

```

Jacob      Sophia
Mason      Emma
Ethan      Isabella
Noah Olivia
William    Ava
Liam Emily
Jayden     Abigail
Michael    Mia
Alexander  Madison
Aiden      Elizabeth

```

in file least common_10 names.txt:

```

Karsen     Devyn
Jarrett    Geraldine
Apollo     Analia
Denzel     Hayleigh
Foster     Landry
Gilbert    Sofie
Jaylon     Tess
Kylen      Ashtyn
Augustine  Jessa
Dangelo     Katalina

```

Q4- (50pts)

- Write a program that takes input from rawdata1.txt and writes a neat list of output to the screen and to neat1.txt. Formatting instructions are used to create a neater layout: Numbers are written one per line in a field width of 10. Each number is written with 3 digits after the

decimal point. Each number is written with a plus or minus sign. Write a function `make_neat1` to format the following text Uses “ 2345.45667 -0.0000456 34.9999 0.006788 -1 2345”

insufficient time to complete, will complete if possible, sorry