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***(BS (CS): Section C)***

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***(Task # 1)***

#include<fstream>

#include<iostream>

using namespace std;

int main()

{

ifstream infile;

infile.open("score.txt");

int student[8]={0,0,0,0,0,0,0,0},score;

while(infile>>score)

{

if(score>=0 && score<=24)

{

student[0]=student[0]+1;

}

if(score>=25 && score<=49)

{

student[1]=student[1]+1;

}

if(score>=50 && score<=74)

{

student[2]=student[2]+1;

}

if(score>=75 && score<=99)

{

student[3]=student[3]+1;

}

if(score>=100 && score<=124)

{

student[4]=student[4]+1;

}

if(score>=125 && score<=149)

{

student[5]=student[5]+1;

}

if(score>=150 && score<=174)

{

student[6]=student[6]+1;

}

if(score>=175 && score<=200)

{

student[7]=student[7]+1;

}

}

cout<<"the number of students ranges from 0 to 24 is : "<<student[0]<<endl;

cout<<"the number of students ranges from 25 to 49 is : "<<student[1]<<endl;

cout<<"the number of students ranges from 50 to 74 is : "<<student[2]<<endl;

cout<<"the number of students ranges from 75 to 99 is : "<<student[3]<<endl;

cout<<"the number of students ranges from 100 to 124 is : "<<student[4]<<endl;

cout<<"the number of students ranges from 125 to 149 is : "<<student[5]<<endl;

cout<<"the number of students ranges from 150 to 174 is : "<<student[6]<<endl;

cout<<"the number of students ranges from 175 to 200 is : "<<student[7]<<endl;

infile.close();

system("pause");

return 0;

}

***(TASK # 2)***

#include<iostream>

#include<fstream>

#include<string>

using namespace std;

int main()

{

int i,marks;

float percentage;

string student\_id;

char total\_answers[20], student\_answers[20];

ifstream infile;

infile.open("input.txt");

cout<<"Student ID"<<" "<<"Answers"<<" "<<"Score(out of 40)"<<" "<<"Grade"<<endl;

for(int i=0;i<20;i++)

{

infile>>total\_answers[i];

}

while(infile>>student\_id)

{

marks=0;

for(int i=0;i<20;i++)

{

infile>>student\_answers[i];

cout<<student\_answers[i];

if(student\_answers[i]== ' ')

{

marks=marks+0;

}

else if(student\_answers[i]==total\_answers[i])

{

marks=marks+2;

}

else

{

marks=marks-1;

}

}

cout<<" "<<" "<<marks;

percentage=(marks/40.0)\*100;

if(percentage>=90.0)

{

cout<<" "<<" "<<" "<<"A"<<endl;

}

else if(percentage>=80.0)

{

cout<<" "<<" "<<" "<<"B"<<endl;

}

else if(percentage>=70.0)

{

cout<<" "<<" "<<" "<<"C"<<endl;

}

else if(percentage>=60.0)

{

cout<<" "<<" "<<" "<<"D"<<endl;

}

else if(percentage<60.0)

{

cout<<" "<<" "<<" "<<"F"<<endl;

}

}

system("pause");

return 0;

}

=================================================================================================================================================================

***(TASK # 3)***

#include<stream>

#include<upstream>

#include<string>

#include<math>

using namespace stud;

int main()

{

ofstream outfile;

outfile.open("output.txt");

string names[5],winner;

int i,number\_of\_votes[5],total\_votes=0,max;

float percentage[5];

for(i=0;i<5;i++)

{

cout<<"Enter name and number of votes: "<<endl;

cin>>names[i]>>number\_of\_votes[i];

total\_votes=total\_votes+number\_of\_votes[i];

}

max=number\_of\_votes[0];

winner=names[0];

for(i=1;i<5;i++)

{

if(number\_of\_votes[i]>max)

{

max=number\_of\_votes[i];

winner=names[i];

}

}

cout<<"Candidate\t\tVotes Received\t\t% of Total Votes"<<endl;

outfile<<"Candidate\t\tVotes Received\t\t% of Total Votes"<<endl;

for(i=0;i<5;i++)

{

percentage[i]=number\_of\_votes[i]\*100.0/total\_votes;

cout<<names[i]<<"\t\t\t"<<number\_of\_votes[i]<<"\t\t\t"<<percentage[i]<<endl;

outfile<<names[i]<<"\t\t\t"<<number\_of\_votes[i]<<"\t\t\t"<<percentage[i]<<endl;

}

cout<<"Total\t\t\t"<<total\_votes<<endl;

outfile<<"Total\t\t\t"<<total\_votes<<endl;

cout<<endl<<"The winner of the elections is "<<winner<<" !"<<endl;

outfile<<"The winner of the elections is "<<winner<<" !"<<endl;

system("pause");

return 0;

}

***(TASK # 4)***

#include<iostream>

using namespace std;

void setZero(int arr[], int size)

{

int i;

for(i=0;i<size;i++)

{

arr[i]=0;

}

}

void inputArray(int alpha[])

{

int i;

cout<<"Enter 20 numbers: "<<endl;

for (i=0;i<20;i++)

{

cin>>alpha[i];

}

}

void doubleArray(int alpha[],int beta[])

{

int i;

for(i=0;i<20;i++)

{

beta[i]=alpha[i]\*2;

}

}

void copyGamma(int inStock[][4],int gamma[])

{

int i,j;

for(i=0;i<4;i++)

{

inStock[0][i]=gamma[i];

}

for(i=1;i<10;i++)

{

for(j=0;j<4;j++)

{

inStock[i][j]=3\*inStock[i-1][j];

}

}

}

void copyAlphaBeta(int inStock[][4],int alpha[],int beta[])

{

int i,j;

for(i=0;i<5;i++)

{

for(j=0;j<4;j++)

{

inStock[i][j]=alpha[i\*4+j];

}

}

for(i=5;i<10;i++)

{

for(j=0;j<4;j++)

{

inStock[i][j]=beta[(i-5)\*4+j];

}

}

}

void printArray(int arr[],int size)

{

int i;

cout<<"{";

for(i=0;i<size;i++)

{

cout<<arr[i];

if(i!=size-1)

cout<<", ";

if((i+1)%15==0)

cout<<endl;

if((i+1)==size)

cout<<"}";

}

cout<<endl;

}

void setInStock(int inStock[][4],int delta[])

{

int i,j;

cout<<"Enter 20 values: "<<endl;

for(i=0;i<10;i++)

{

for(j=0;j<4;j++)

{

if(j==0)

{

cin>>inStock[i][j];

}

else

{

inStock[i][j]=(2\*inStock[i][j-1])-delta[i];

}

}

}

}

void print2dArray (int inStock[][4])

{

int i,j;

cout<<"Column 1\tColumn 2\tColumn 3\tColumn 4"<<endl;

for(i=0;i<10;i++)

{

for(j=0;j<4;j++)

{

cout<<inStock[i][j]<<"\t\t";

}

cout<<endl;

}

}

int main()

{

int inStock[10][4];//10 rows, 4 columns

int alpha[20];

int beta[20];

int gamma[4] = {11, 13, 15, 17};

int delta[10] = {3, 5, 2, 6, 10, 9, 7, 11, 1, 8};

cout<<"Function 'setZero':"<<endl;

setZero(alpha,20);

cout<<"alpha= ";

printArray(alpha,20);

cout<<endl<<"Function 'inputArray':"<<endl;

inputArray(alpha);

cout<<"alpha= ";

printArray(alpha,20);

cout<<endl<<"Function 'doubleArray':"<<endl;

doubleArray(alpha,beta);

cout<<"beta= ";

printArray(beta,20);

cout<<endl<<"Function 'copyGamma':"<<endl;

copyGamma(inStock,gamma);

print2dArray(inStock);

cout<<endl<<"Function 'copyAlphaBeta':"<<endl;

copyAlphaBeta(inStock,alpha,beta);

print2dArray(inStock);

cout<<endl<<"Function 'setInStock':"<<endl;

setInStock(inStock,delta);

print2dArray(inStock);

system("pause");

return 0;

}