**AITZAZ TAHIR CH 19p-0012**

**Pf lab quiz 2**

**TASK 1**

#include<iostream>

#include<fstream>

using namespace std;

int main()

{

int score,r[8]={0},i,lb=0,ub=24;

ifstream from\_file;

from\_file.open("scores.txt");

while(!from\_file.eof())

{

from\_file>>score;

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

r[0]++;

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

r[1]++;

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

r[2]++;

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

r[3]++;

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

r[4]++;

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

r[5]++;

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

r[6]++;

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

r[7]++;

}

cout<<"Range"<<"\t"<<"Number of scores in this range"<<endl;

for(i=0;i<7;i++)

{

cout<<lb<<"-"<<ub<<"\t"<<range[i]<<endl;

lb+=25;

ub+=25;

}

cout<<"175-200"<<"\t"<<range[7]<<endl;

system("pause");

return 0;

}

**TASK 2**

#include<iostream>

#include<fstream>

#include<string>

using namespace std;

int main()

{

bool found=false;

int i,count\_str,j,marks,k,position[10],l;

float percentage;

string id\_file,chk,dummy;

char band\_file[20], ans\_file[20],check\_str[20];

ifstream file,check\_space;

file.open("history.txt");

check\_space.open("history.txt");

cout<<"Student ID\tAnswers\t\t\tScore(out of 40)\tGrade"<<endl;

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

{

file>>band\_file[i];

check\_space>>check\_str[i];

}

while(file>>id\_file)

{

{

check\_space>>dummy;

count\_str=0;

i=0;

l=0;

while(count\_str<21)

{

j=0;

check\_space>>chk;

while(check\_str[j]=chk[j])

{

count\_str++;

j++;

}

l=l+j+1;

position[i]=l;

i++;

count\_str+=i;

}

}

cout<<id\_file<<"\t";

marks=0;

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

{

found=false;

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

{

if(position[l]==k+1)

found=true;

}

if(found)

{

cout<<" ";

}

else

{

file>>ans\_file[k];

cout<<ans\_file[k];

if(ans\_file[k]==band\_file[k])

marks+=2;

else

marks-=1;

}

}

cout<<"\t"<<marks;

percentage=(marks/40.0)\*100;

if(percentage>=90.0)

cout<<"\t\t\tA"<<endl;

else if(percentage>=80.0)

cout<<"\t\t\tB"<<endl;

else if(percentage>=70.0)

cout<<"\t\t\tC"<<endl;

else if(percentage>=60.0)

cout<<"\t\t\tD"<<endl;

else if(percentage<60.0)

cout<<"\t\t\tF"<<endl;

}

system("pause");

return 0;

}

**TASK 3**

#include<iostream>

#include<string>

using namespace std;

double per(int a,int t\_votes)

{

return a\*100.0/t\_votes;

}

string winner(int &votes1,string cd1,int votes2,string cd2)

{

if (votes1>votes2)

return cd1;

else

{

votes1=votes2;

return cd2;

}

}

int main()

{

double perc[5];

string cd[5],wname;

int votes[5],i,tvotes=0,wvotes;

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

{

cout<<"Enter the name and number of votes for candidate no. "<<i+1<<endl;

cin>>cd[i]>>votes[i];

}

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

{

tvotes=tvotes+votes[i];

}

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

{

perc[i]=per(votes[i],tvotes);

}

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

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

{

cout<<cd[i]<<"\t\t\t"<<votes[i]<<"\t\t\t"<<perc[i]<<endl;

}

wname=cd[0];

wvotes=votes[0];

for(i=1;i<4;i++)

{

wname=winner(wvotes,wname,votes[i],cd[i]);

}

cout<<"Total\t\t\t"<<tvotes<<endl;

cout<<endl<<"The winner of the elections is "<<wname<<" !"<<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 inArray(int alpha[])

{

int i;

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

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

{

cin>>alpha[i];

}

}

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

{

int i;

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

{

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

}

}

void cGamma(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 cAlphaBeta(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 pArray(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 p2dArray (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];

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= ";

pArray(alpha,20);

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

inArray(alpha);

cout<<"alpha= ";

pArray(alpha,20);

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

dbleArray(alpha,beta);

cout<<"beta= ";

pArray(beta,20);

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

cGamma(inStock,gamma);

p2dArray(inStock);

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

cAlphaBeta(inStock,alpha,beta);

p2dArray(inStock);

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

setInStock(inStock,delta);

p2dArray(inStock);

system("pause");

return 0;

}

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