**Lab-7 Assignment**

**1)C++ program to print the information of balance of the customer**

**Algorithm:** In this program first, we are declaring the deposit function with parameters balance, deposit amount. Then we are declaring the template function display to display the balance with addition to deposit amount and in the main function we are calling the functions with two different values one is int and another is float and at last with the help of template function we get the correct balance amount.

**Logic:**

#include<iostream>

using namespace std;

int deposit()

{

int balance;

int deposit\_amount;

}

template<typename T>

T display(T balance, T deposit\_amount)

{

cout<<"Balance after depositing money in Customer account : "<<balance+deposit\_amount<<endl;

}

int main()

{

display<int>(1000,2500);

display<float>(2436.54,1432.43);

cout<<"Submitted by G.Hruthesh Reddy, Admn.No 20BCB7031"<<endl;

}

**Output:**

**A screenshot of a computer

Description automatically generated**

**2)C++ program to get rank of student using class function**

**Algorithm:** In this program we are declaring grades of two semester of the student in a function called Grades. And then we are declaring a Template function called student which shows the whether the addition of both grades is greater than 8.0 then student will pass at first class or else at second class. In main function we are calling the template function and assigning both grade points to get the result.

**Logic:**

#include<iostream>

using namespace std;

int grades()

{

int grade1;

int grade2;

}

template<typename T>

T Student(T grade1, T grade2)

{

T cg=grade1+grade2;

if(cg>8.0)

cout<<"The student had secured first class"<<endl;

else

cout<<"The student had secured second class"<<endl;

}

int main()

{

Student(8.1,8.7);

cout<<"Submitted by G.Hruthesh Reddy, Admn.No 20BCB7031"<<endl;

return 0;

}

**Output:**

**Text

Description automatically generated**

**3) C++ program to give information using template class**

**Algorithm:** In this program we are declaring a template class called seller and we are going to give the quantity, price and declaring the function called total\_amount to calculate total amount. In which user gives the values to calculate total amount. In the main function we give class seller a variable s and call the function to get the results.

**Logic:**

#include<iostream>

using namespace std;

template<class T> class seller

{

public:

T quantity;

T price;

void total\_amount()

{

cout<<"Enter the quantity of Product : ";

cin>>quantity;

cout<<"Enter the price of Product : ";

cin>>price;

cout<<"Total Amount for selling products : "<<quantity\*price<<endl;

}

};

int main()

{

seller<int>s;

s.total\_amount();

cout<<"Submitted by G.Hruthesh Reddy,Admn.No 20BCB7031"<<endl;

}

**Output:**

**A screenshot of a computer

Description automatically generated**

**4) C++ program to arrange numbers in Ascending Order with class template**

**Algorithm:** In this program at first we are declaring the constant n=10 where the kid has only 10 numbers and then we are declaring template class and we declare an array for 10 numbers. In that function we had declared read function which reads numbers in array. Then we declared AO function for ascending order. In that function we are taking a number in array assume arr[i] and second number arr[j] and then we compare the greatest number then when are going replace arr[i] value with arr[j] as this is ascending order small number should be first and large number should be second. We are displaying values using display function. In main function user will give the number and then the correct function will be called in the class to get the results.

**Logic:**

#include <iostream>

using namespace std;

const int n=10;

template<class T>class Array

{

public:

T arr[n];

void read()

{

for(int i=0;i<n;i++){

cin>>arr[i];

}

}

void AO(){

T temp;

for(int i=0;i<n;i++){

for(int j=i+1;j<n;j++){

if(arr[i]>arr[j]){

temp=arr[i];

arr[i]=arr[j];

arr[j]=temp;

}

}

}

}

void display(){

for(int i=0;i<n;i++){

cout<<arr[i]<<" ";

}

cout<<endl;

}

};

int main(){

Array<int>a;

cout<<"Enter the numbers of the kid hand : ";

a.read();

a.AO();

cout<<"Arranging the Numbers in ascending order : ";

a.display();

cout<<"Submitted by G.Hruthesh Reddy, Admn.No20BCB7031"<<endl;

return 0;

}

**Output:**

**Text

Description automatically generated with medium confidence**

**Time of Submission: 26/9/21, 14:45**