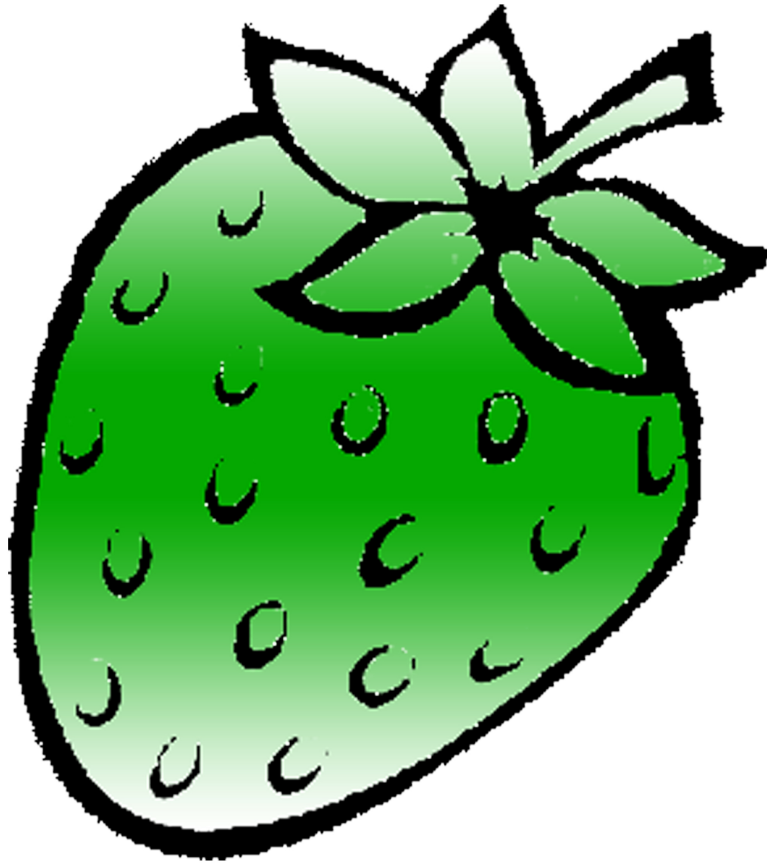


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Experiment No. 6

PART A

(PART A: TO BE REFERRED BY STUDENTS)

A.1 Aim: Aim: To understand the concept of type conversions.

P1: Write a program to declare two classes Rupees and Dollar. Declare objects of both the classes and perform conversion between Rupees and Dollar using any of the conversion method.

A.2 Prerequisite:

Knowledge of classes and object.

A.3 Outcome:

After successful completion of this experiment students will be able to

1. Know use of classes and objects.
2. Know how to convert from class type to class.
3. Know to convert from basic to class.

A.4 Theory:

When constants and variables of different types are mixed in an expression, C++ applies automatic type conversion to the operands. The type of data to the right of an assignment operator is automatically converted to the type of the variable on the left. It is true as long as that data type is built in data type.

Three types of data conversions are possible:

1. Conversion from basic type to class type

Example:

Class time

{

int hrs,minutes;

public:

.

.

Time(int t)

{

hours=t/60;

minutes=t%60;

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```

}
};
main();
{ Time t1;
Int duration=85;
T1=duration;

```

2. Conversion from class type to basic type

C++ allows to define overloaded casting operator that could be used to convert class type data to basic type.

Example: (it covers class type object to double)

```

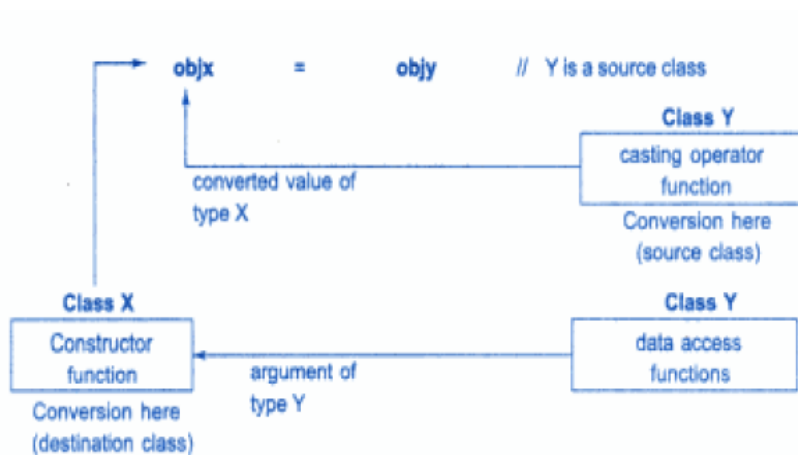
Vector :: operator double()
{
Double sum=0;
For(int i=0; i<size; i++)
    Sum=sum+v[i]*u[i];
Return sqrt(sum);
}

```

Operator double can be used as: double length=v1 or double length=double(v1);

3. Conversion from one class type to another class type

Conversion between objects of different classes can be carried out by either a constructor or a conversion function.



Type Conversion:

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<i>Conversion required</i>	<i>Conversion takes place in</i>	
	<i>Source class</i>	<i>Destination class</i>
Basic → class	Not applicable	Constructor
Class → basic	Casting operator	Not applicable
Class → class	Casting operator	Constructor

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PART B

(PART B: TO BE COMPLETED BY STUDENTS)

(Students must submit the soft copy as per following segments within two hours of the practical. The soft copy must be uploaded on the Blackboard or emailed to the concerned lab in charge faculties at the end of the practical in case the there is no Black board access available)

Roll No. N008	Name: AKSHAY BANDA
Program: MBA TECh CS	Division: C
Semester: 2	Batch : C1
Date of Experiment: 25/2/15	Date of Submission:
Grade :	

B.1 Software Code written by student:

(Paste your C++ code completed during the 2 hours of practical in the lab here)

1.

```
#include<iostream>
using namespace std;
```

```
class Dollar
{
    double d;
public:
    Dollar()
    {
        d=0;
    }
    Dollar(double d1)
    {
        d=d1;
    }
    double getd()
    {
        return d;
    }
    void display()
```

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```
    {  
        cout<<"\nAmount in dollar is : "<<d;  
    }  
};
```

```
class Rupees  
{  
private :  
    double r;  
public:  
    Rupees()  
    {  
        r=0;  
    }  
    Rupees(double r1)  
    {  
        r=r1;  
    }  
    double getr()  
    {  
        return r;  
    }  
    operator Dollar()  
    {  
        double a;  
        a=r/60;  
        return Dollar(a);  
    }  
    Rupees (Dollar D)  
    {  
        r=D.getd()*60;  
    }  
    void display()  
    {  
        cout<<"\nAmount is Rupees is : "<<r;  
    }  
};
```

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```

int main()
{
    Rupees R;
    Dollar D;
    int c;
    double r,d;
    cout<<"\nEnter 1 for Rupee to Dollar";
    cout<<"\nEnter 2 for Dollar to Rupee";
    cout<<"\nEnter your choice : ";
    cin>>c;
    if(c==1)
    {
        cout<<"\nEnter amount is Rupee : ";
        cin>>r;
        R=r;
        D=R;
        D.display();
    }
    else if(c==2)
    {
        cout<<"\nEnter amount is Dollar : ";
        cin>>d;
        D=d;
        R=D;
        R.display();
    }
    return 0;
}

```

B.2 Input and Output:

(Paste your program input and output in following format. If there is error then paste the specific error in the output part. In case of error with due permission of the faculty extension can be given to submit the error free code with output in due course of time. Students will be graded accordingly.)

1.

Enter 1 for Rupee to Dollar

Enter 2 for Dollar to Rupee

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Enter your choice : 2

Enter amount is Dollar : 5

Amount is Rupees is : 300

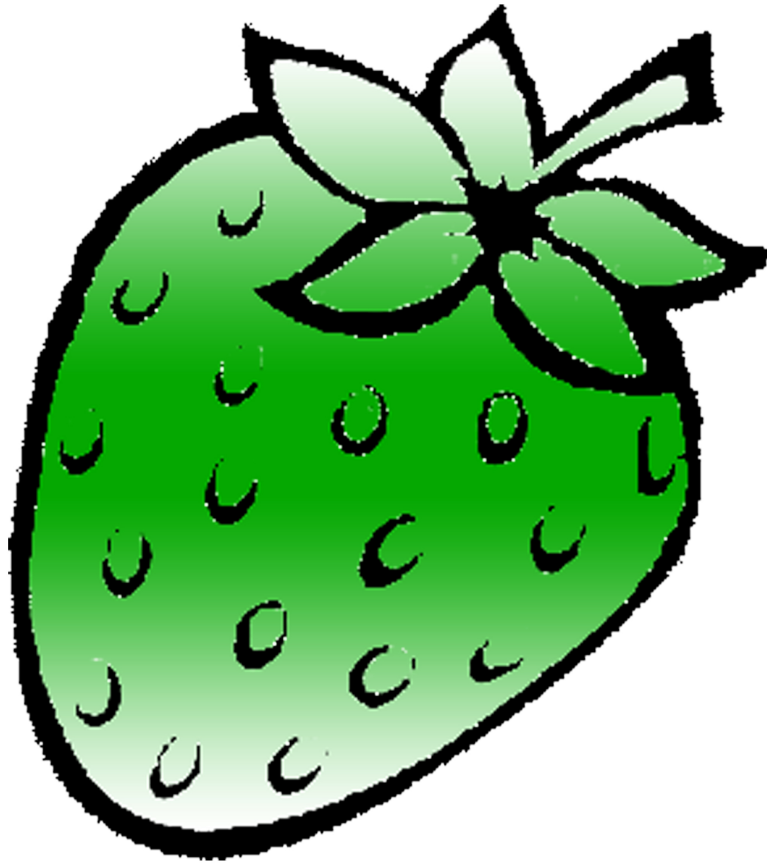
B.3 Conclusion:

(Students must write the conclusion as per the attainment of individual outcome listed above and learning/observation noted in section B.1)

I learned to use classes and objects, convert from class type to class, convert from basic to class.

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