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Computer Science 1
H.S.C Board Practical fair Journal

Experiment No. 1

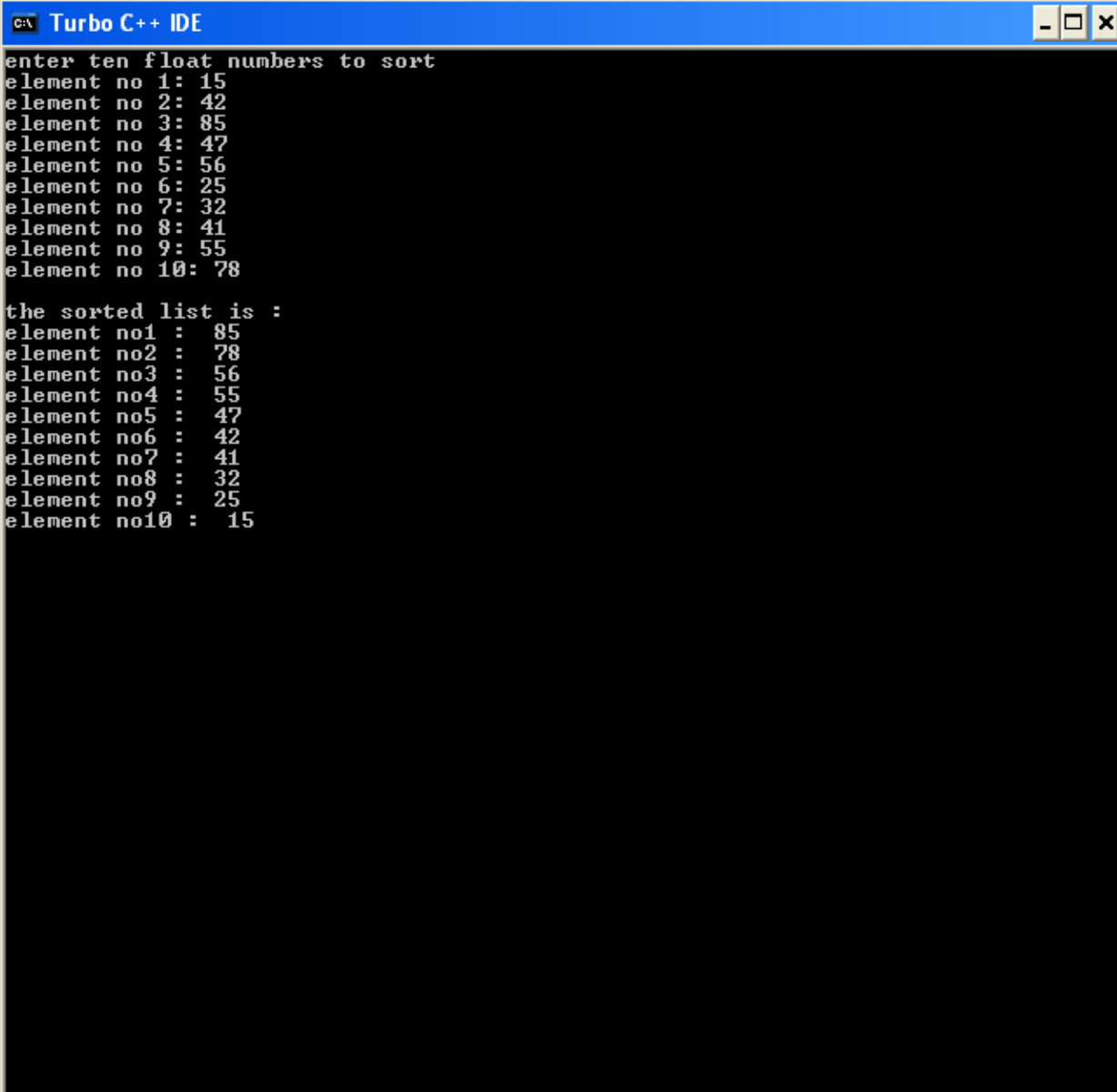
- a) Write a program in C++ that first initialise an array of given 10 real numbers. The program must sort numbers in ascending/descending order using BUBBLE-SORT method. It should print given list of numbers as well as the sorted list.
- b) Enter the program and verify proper execution on the same Computer.
- c) Obtain a hardcopy of the program listing as well as output.

Program:

```
#include <iostream.h>
#include <conio.h>

void main ()
{
int a[10] , t ;
clrscr() ;
cout<<"enter ten numbers to sort "<<endl ;
for (int i=0 ; i<10 ; i++)
{
cout<<"element no "<<i+1<<": ";
cin>>a[i];
}
for (i=0 ; i<10 ; i++)
for (int j=0 ; j<9 -i ; j++)
{
if (a [j] <=a [j+1])
{
t = a[j] ;
a [j] = a [j+1] ;
a [j + 1] = t ;
}
}
cout<<endl<<"the sorted list is : "<<endl;
for (i=0 ; i<10 ; i++)
{
```

```
        cout<<"element no"<<i+1<<" : "<<a [i] <<endl;
    }
    getch ();
}
```



The screenshot shows a Turbo C++ IDE window with a blue title bar. The main area is black with white text. The text displays the program's execution flow: a prompt to enter ten float numbers, followed by ten input lines, a separator line, and a list of ten sorted numbers.

```
C:\ Turbo C++ IDE
enter ten float numbers to sort
element no 1: 15
element no 2: 42
element no 3: 85
element no 4: 47
element no 5: 56
element no 6: 25
element no 7: 32
element no 8: 41
element no 9: 55
element no 10: 78

the sorted list is :
element no1 : 85
element no2 : 78
element no3 : 56
element no4 : 55
element no5 : 47
element no6 : 42
element no7 : 41
element no8 : 32
element no9 : 25
element no10 : 15
```

Experiment No. 2

- a) Write a program in C++ with ratio class using member functions like assign () function to initialise its member data (integer numerator and denominator), convert () function to convert the ratio into double, invert () function to get the inverse of the ratio and print () function to print the ratio and reciprocal.
- b) Enter the program and verify proper execution on the same Computer.
- c) Obtain a hardcopy o the program listing as well as output.

Program:

```
#include<iostream.h>
#include<conio.h>
class ratio
{
private:
int num,den;
float f,ref;
double n;
public:
void assign();
void convert();
void invert();
void print();
};
void ratio::assign()
{
cout<<" Enter the numerator of the ratio\n";
cin>>num;
cout<<" Enter the denominator of the ratio\n";
cin>>den;
f=(float)num/den;
}
void ratio::convert()
{
n=f;
}
```

```
void ratio::invert()
```

```
{
```

```
ref=1/f;
```

```
}
```

```
void ratio::print()
```

```
{
```

```
cout<<"\n The original ratio is=\n"<<f;
```

```
cout<<"\n The reciprocal of the ratio is=\n"<<ref;
```

```
}
```

```
void main()
```

```
{
```

```
clrscr();
```

```
ratio obj;
```

```
obj.assign();
```

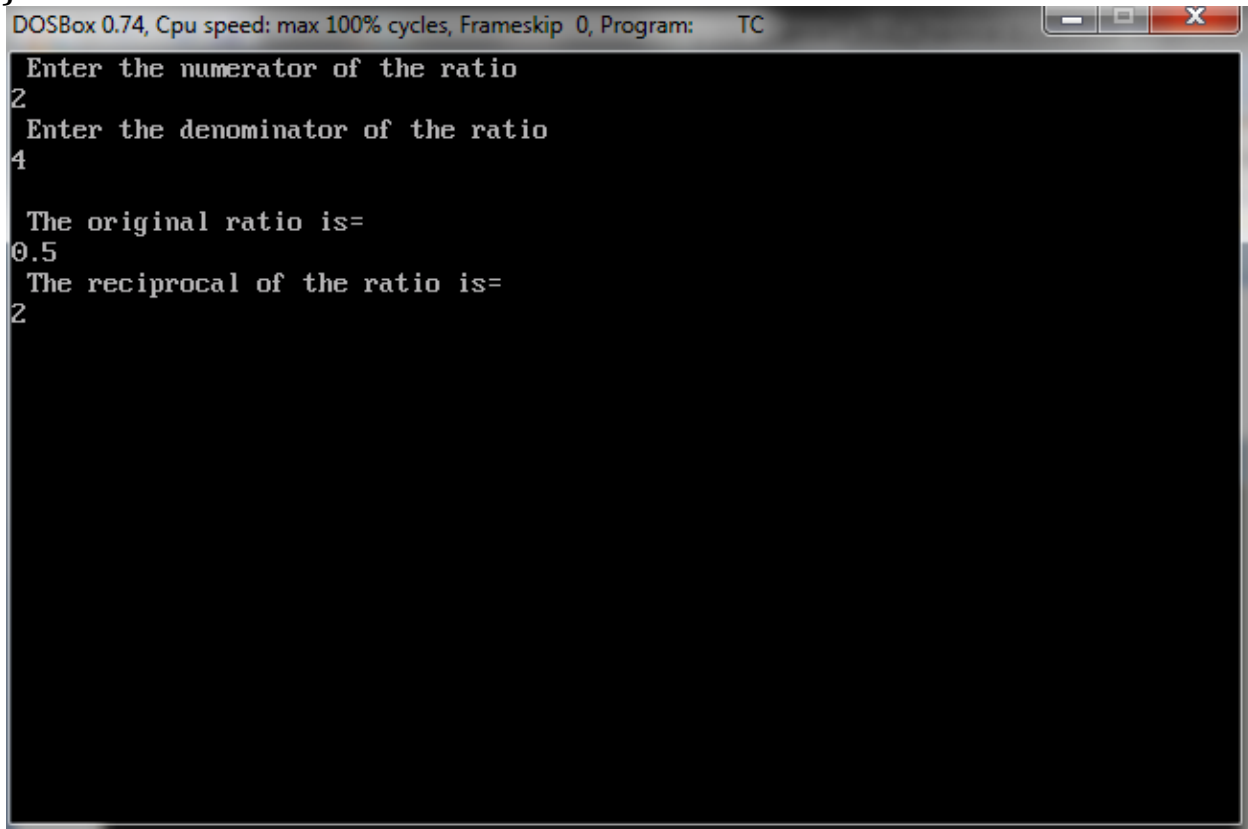
```
obj.convert();
```

```
obj.invert();
```

```
obj.print();
```

```
getch();
```

```
}
```



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC
Enter the numerator of the ratio
2
Enter the denominator of the ratio
4

The original ratio is=
0.5
The reciprocal of the ratio is=
2
```

Experiment No. 3

- a) Implement a circle class in C++ Each object of this class will represent a circle, storing its radius and x and y co-ordinates of its centre as floats. Include a default constructor, access functions, an area () function on and a circumference () function. The program must print the co-ordinates with radius, area and circumference of the circle.
- b) Enter the program and verify proper execution on the same Computer.
- c) Obtain a hardcopy o the program listing as well as output.

Program:

```
#include<conio.h>
#include<iostream.h>
class circle
{
private :
float x,y,pi,rad;
public:
circle()
{
pi=3.14;
}

void accept()
{
cout<<"enter x co-ordinates \n";
cin>>x;
cout<<"enter y co-ordinates \n";
cin>>y;
cout<<"enter radius \n";
cin>>rad;
}
void display()
{
cout<<"X-co-ordinate of circle is:"<<x<<endl;
cout<<"Y-co-ordinate of circle is:"<<y<<endl;
}

void area()
```

```

{
float ar= pi*rad*rad;
cout<<"\n area of the circle is = "<<ar;
}
void circum()
{
float cr= 2*pi*rad;
cout<<"\n Circumference of the circle is "<<cr;
}

};

void main()
{
clrscr();
circle c;
c.accept();
c.display();
c.area();
c.circum();
getch();
}

```

The screenshot shows a Turbo C++ IDE window with the following output in green text on a black background:

```

C:\ Turbo C++ IDE
enter X-co-ordinate
5
enter Y-co-ordinate
6
enter Radius
3.5
X-co-ordinate of circle is:5
Y-co-ordinate of circle is:6

area of the circle is = 38.489498
Circumference of the circle is 21.993999

```

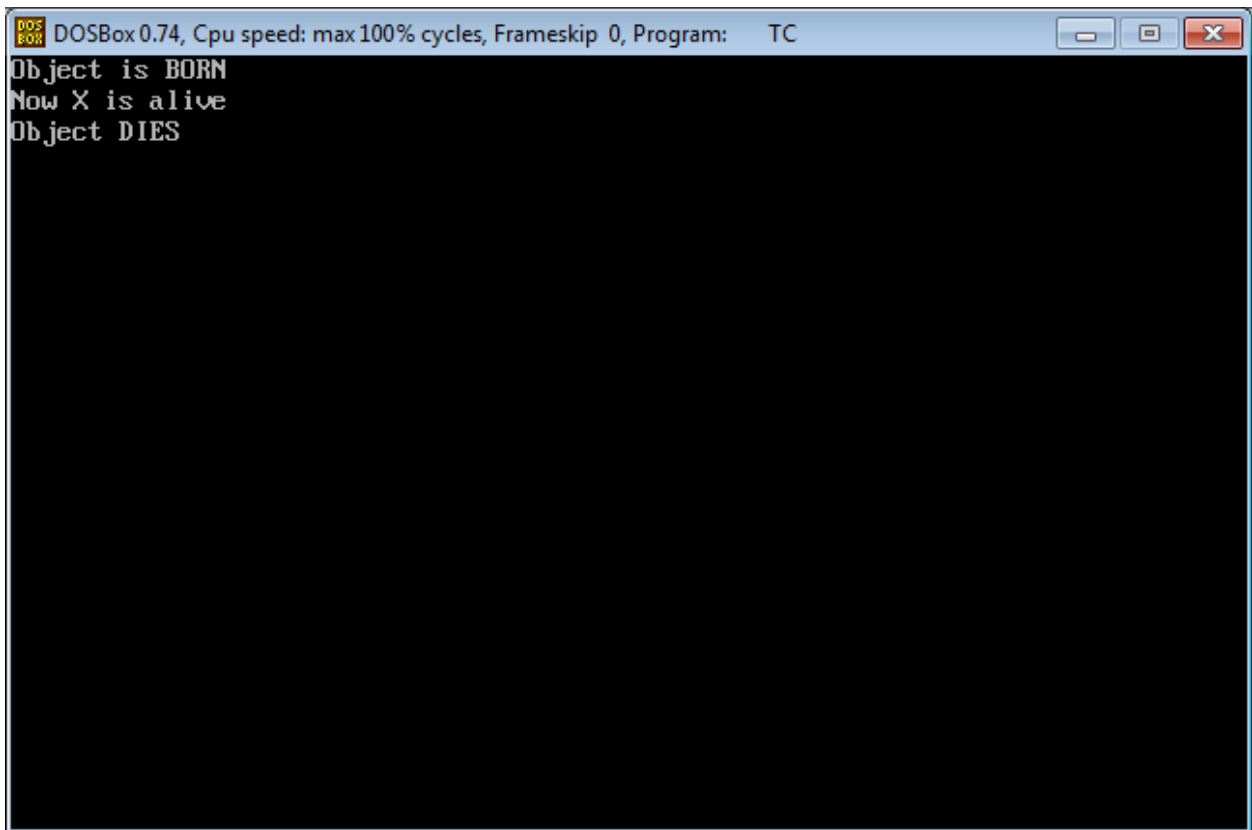
Experiment No. 4

- a) Write a program in C++ that initialises a Static class with no parameters as a default constructor. The program must print the message "OBJECT IS BORN" during initialization. It should display the message "NOW X IS ALIVE" when the first member function Ratio x is called. The program must display "OBJECT DIES" when the class destructor is called for the object when it reaches the end of its scope.
- b) Enter the program and verify proper execution on the same Computer.
- c) Obtain a hardcopy o the program listing as well as output.

Program:

```
#include<iostream.h>
#include<conio.h>
class ratio
{
public:
ratio()
{
    cout<<"Object is BORN"<<endl;
}
~ratio()
{
    cout<<"Object DIES"<<endl;
}
};
void main()
{
clrscr();

{
    ratio x;
    cout<<"Now X is alive"<<endl;
}
getch();
}
```

DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

```
Object is BORN  
Now X is alive  
Object DIES
```

Experiment No. 5

- a) Write a program in C++ with a complex constructor to add the given two complex numbers
A = _____ and B = _____. The program should print the given complex number and their sum.
- d) Enter the program and verify proper execution on the same Computer.
- e) Obtain a hardcopy of the program listing as well as output.

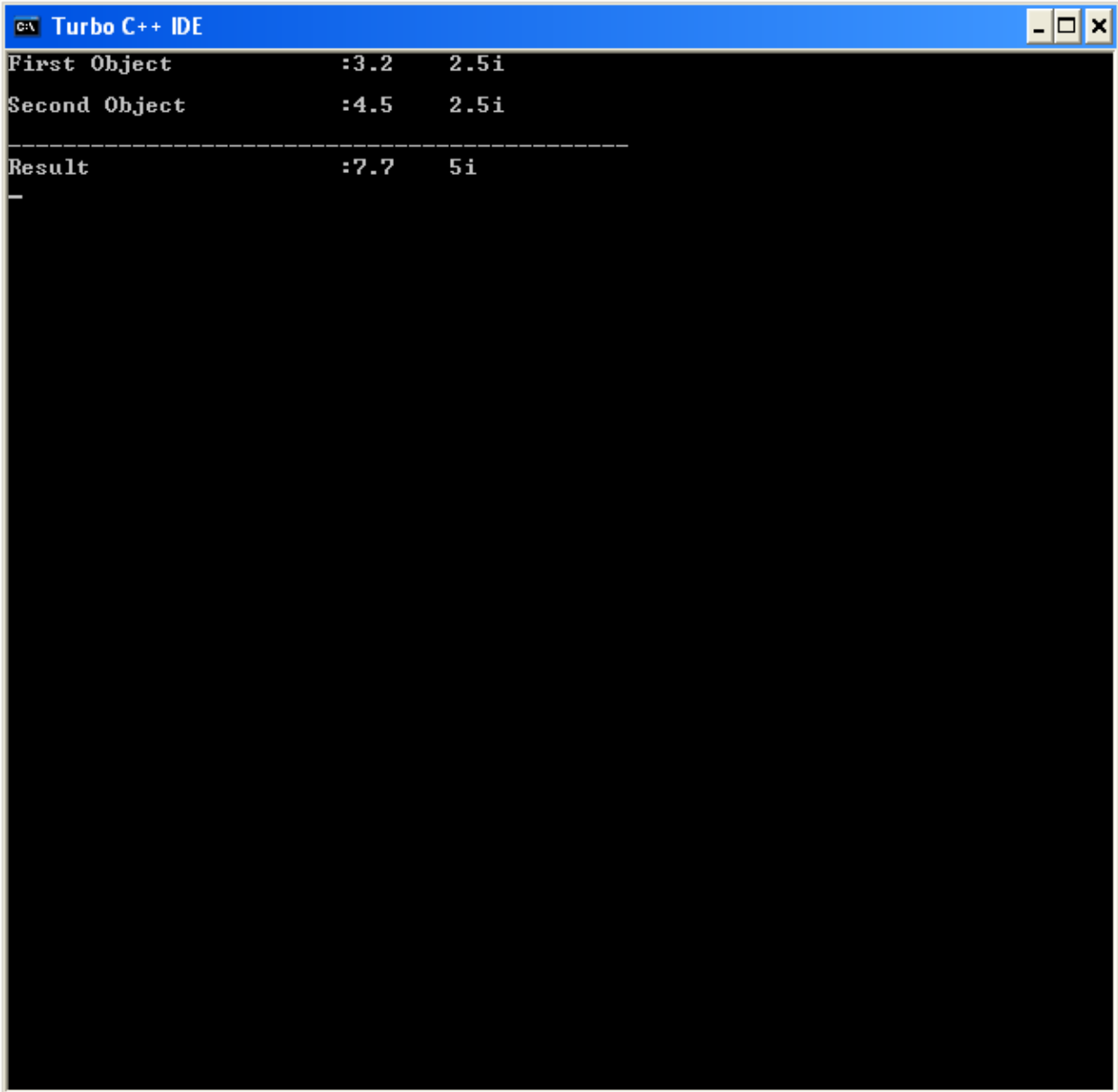
Program:

```
#include<iostream.h>
#include<conio.h>
class complex
{
private:
    float x;        //real
    float y;        //imaginary
public:
    complex() { }
    complex(float real, float imag)
    {    x=real;
        y=imag;
    }
    void display()
    {
    cout<<x<<"+"<<y<<"i \n";
    }

    complex operator + (complex)
    {
    complex temp;
    temp.x = x + c.x;
    temp.y = y + c.y;
    return ( temp );
    }

};
```

```
void main()
{
clrscr();
complex c1, c2, c3;
c1 = complex (3.2,2.5);
c2 = complex (4.5,2.5);
c3 = c1 + c2 ;
cout<<"First Object  :";
c1.display();
cout<<"\nSecond Object  :";
c2.display();
cout<<"\n-----";
cout<<"\nResult :";
c3.display();
getch();
}
```



The screenshot shows a Turbo C++ IDE window with the following output:

```
First Object      :3.2  2.5i
Second Object     :4.5  2.5i
-----
Result            :7.7  5i
```

Experiment No. 6

a) Write a program in C++ using virtual function. The program must declare p to be a pointer to objects of the base class person First, the program must assign p to point an instance x (name of the person e.g. "BOB") of class person. The program must then assign p to point at an instance y (name of student, e.g. "TOM") of the derived class student.

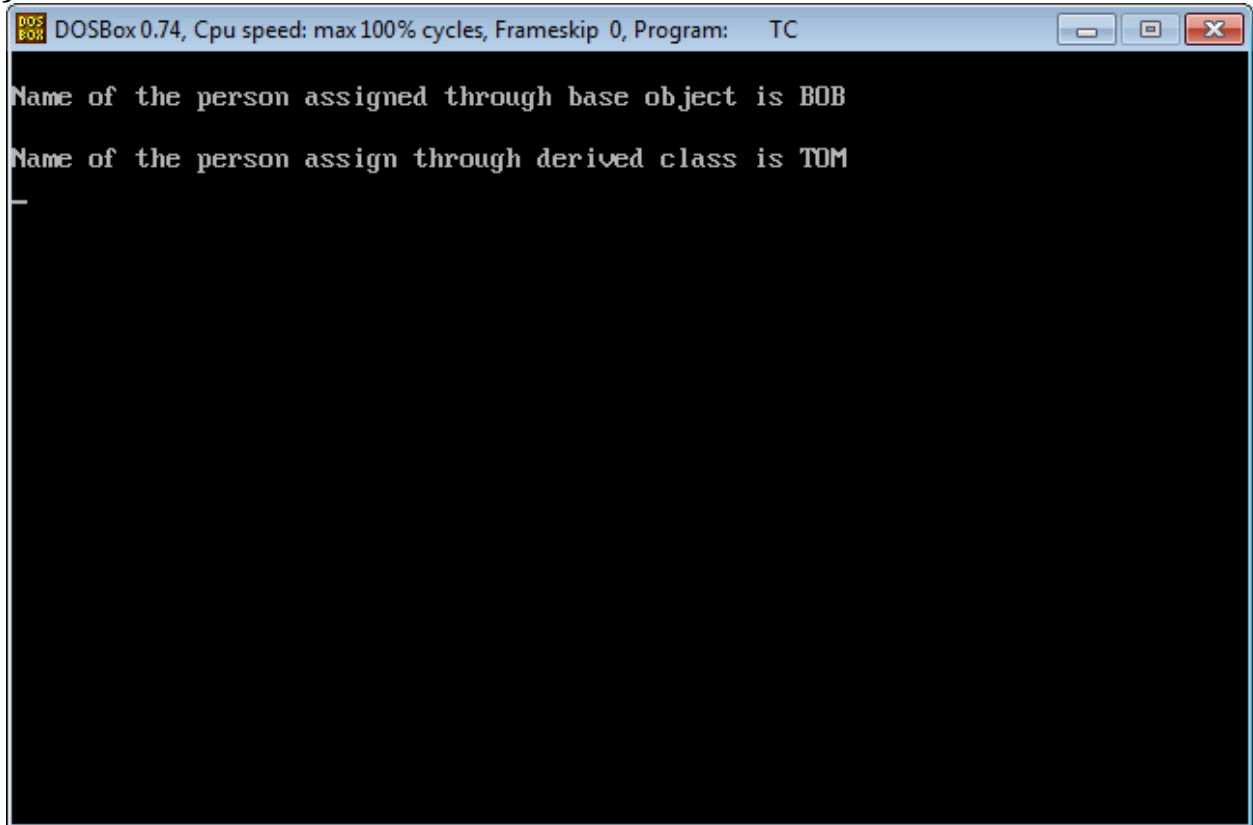
Define a print () function in the base class such that it invokes the same base class function to print the name of the name of the student.

b) Enter the program and verify proper execution on the same Computer.

c) Obtain a hardcopy o the program listing as well as output.

```
#include<iostream.h>
#include<conio.h>
class person
{
    public :
    virtual void print()
    {
        cout<<"\nName of the person assigned through base object is
BOB"<<endl;
    }
};
class student : public person
{
    public:
    void print()
    {
        cout<<"\nName of the person assign through derived class is
TOM"<<endl;
    }
};
void main()
{
    clrscr();
    person *p,x;
    student y;
```

```
p=&x;  
p->print();  
p=&y;  
p->print();  
getch();  
}
```



The image shows a screenshot of a DOSBox window. The title bar reads "DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC". The window contains a black terminal area with white text. The text displayed is:

```
Name of the person assigned through base object is BOB  
Name of the person assign through derived class is TOM  
_
```

Experiment No. 7

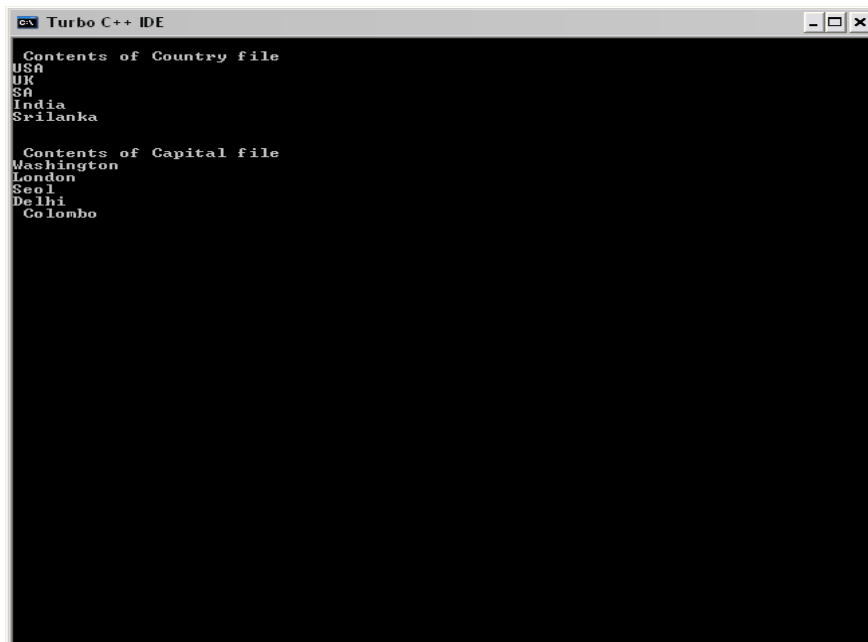
- a) Write a program in C++ to read the name of country from one text file and name of its corresponding capital city from another text file. The program must display the country name and indicate its corresponding capital (for at least five countries) in the output.
- d) Enter the program and verify proper execution on the same Computer.
- e) Obtain a hardcopy o the program listing as well as output.

Program:

```
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
void main()
{
clrscr();
ofstream fout;
fout.open("Country");
fout<<"USA\n";
fout<<"UK\n";
fout<<"SA\n";
fout<<"India\n";
fout<<"Srilanka\n ";
fout.close();
fout.open("Capital");
fout<<"Washington\n";
fout<<"London\n";
fout<<"Seol\n";
fout<<"Delhi\n ";
fout<"Colombo\n";
fout.close();
const int n=80;
char line [n];
ifstream fin;
fin.open("Country");
cout<<"\n Contents of Country file\n";
while(fin.eof()==0)
```

```
{
fin.getline(line,n);
cout<<line<<endl;
}
fin.close();
fin.open("Capital");
cout<<"\n Contents of Capital file\n";
while(fin.eof()==0)
{
fin.getline(line,n);
cout<<line<<endl;
}
fin.close();

getch();
}
```



The screenshot shows a Turbo C++ IDE window with the following output:

```
Contents of Country file
USA
UK
SA
India
Srilanka

Contents of Capital file
Washington
London
Seoul
Delhi
Colombo
```

Experiment No. 8

- a) Create a simple HTML page on the following topics:
College profile, Computer Manufacturer, or Software Development Company
The page must consist of at least 3 paragraphs of text. The page must have an appropriate title, background color or background image, and hyperlink to other pages. The paragraphs must have text consisting of different colors and styles in terms of alignment and Font Size.
- b) Save the file and view the same using any HTML Browser.
Verify functioning of the hyperlink.
- c) Obtain a hardcopy of the HTML code only.

Program:

```
<html>
```

```
<head>
```

```
<title>INFOSYS</title>
```

```
</head>
```

```
<body bgcolor="yellow">
```

```
<marquee><font color="blue" size="8"> Welcome To  
INFOSYS</font></marquee>
```

```
<hr>
```

```
<h2><center>ABOUT</center></h2>
```

```
<font color="red" size="5"><p>
```

Infosys is a global leader in consulting, technology, outsourcing and next-generation services. We enable clients in more than 50 countries to outperform the competition and stay ahead of the innovation curve. US\$ 9.5 billion in LTM revenues and 194,000+ employees, we are helping enterprises renew themselves while also creating new avenues to generate value.

```
</font></p>
```

```
<hr>
```

```
<h2><center>CAREER</center></h2>
```

```
<font color="green" size="5"><p>
```


You will take bottom-line responsibility for the project. You will build the project team, review progress, mitigate risk, ensure successful delivery and implementation. You will take ownership of your team and their performance.

</p>

<hr>

<h2><center>CONTACT US</center></h2>

<p>

India

HRD - Recruitment

Infosys Limited

No. 44, Electronics City

Bangalore - 560 100

Fax: +91 80 2852 0851

Website:-

INFOSYS

</p>

</body>

</html>



Experiment No. 9

- a) Create a simple HTML page on the following topics:
College profile, Computer Manufacturer, or Software Development Company

The page must consist of a scrolling marquee displaying an appropriate Message. The page must include a table with at least 5 rows and 3 columns having merged cells at least at 1 place. The page must also display an image, an image such that when the same is viewed through a browser and the mouse is placed (hovered) on the image, an appropriate text message should be displayed. The image itself should also act as a hyperlink to another page.

- b) Save the file and view the same using any HTML Browser offline. Verify functioning of the hyperlinks.
c) Obtain a hardcopy of the HTML code only.

```
<html>
<head>
<title>WIPRO</title>
</head>
<body bgcolor="aqua">
<marquee><font color="black" size="8"> Welcome To
Wipro</font></marquee>
<a href="www.wirpo.com">
</img></a>
<hr>
<h2><center>ABOUT</center></h2>
<font color="red" size="5"><p>
```

Wipro Ltd (NYSE:WIT) is a global information technology, consulting and outsourcing company with 170,000+ workforce serving clients in 175+ cities across 6 continents. The company

posted revenues of \$7.7 Billion for the financial year ended Mar 31, 2016.

</p>

<hr>

<h2><center>CAREER</center></h2>

<p>

<table border="2">

<tr>

<th>Campus</th>

<th> Work with Us</th>

<th colspan="2"> staffing partners </th>

</tr>

<tr>

<td> Engineering</td>

<td> Job Search </td>

<td> Permanant Staffing </td>

<td> Contractual Staffing </td>

</tr>

<tr>

<td> MBA</td>

<td> Hiring Process </td>

<td> ABC </td>

<td> XYZ </td>

</tr>

<tr>

<td> Science Graduates </td>

<td> Wipro Americas </td>

<td> DEF </td>

<td> UVW</td>

</tr>

</table>

</p>

<hr>

<h2><center>CONTACT US</center></h2>

<p>

Wipro Limited

Doddakannelli, Sarjapur Road,

Bangalore - 560035

Phone: +91 80 28440011

Fax No: +91 80 28440256

Website:-

WIPRO

</p>

</body>

</html>

WIPRO - Windows Internet Explorer

C:\Documents and Settings\admin\Desktop\123.html

File Edit View Favorites Tools Help

WIPRO

Welcome To Wipro



ABOUT

Wipro Ltd (NYSE:WIT) is a global information technology, consulting and outsourcing company with 170,000+ workforce serving clients in 175+ cities across 6 continents. The company posted revenues of \$7.7 Billion for the financial year ended Mar 31, 2016.

CAREER

Campus	Work with Us	staffing partners	
Engineering	Job Search	Permanent Staffing	Contractual Staffing
MBA	Hiring Process	ABC	XYZ
Science Graduates	Wipro America	DEF	UVW

CONTACT US

Wipro Limited
 Doddakannelli, Sarjapur Road,
 Bangalore - 560035
 Phone: +91 80 28440011
 Fax No: +91 80 28440236 Website: WIPRO

Done

My Computer 60%

Start wipro.png (PNG I... Computer Science ... 123 - Notepad WIPRO - Windo... Search Results Desktop 11:23 AM

Experiment No. 10

- a) Write a program in Visual Basic that calculates area and selections of two shapes, Circle and Rectangle.
- b) Enter the program and proper execution of the same on the computer.
- c) Obtain a hard copy of the program listing by printing the FRM file.

```
Private Sub Command1_Click()
```

```
Frame1.Visible = True
```

```
Frame2.Visible = False
```

```
End Sub
```

```
Private Sub Command2_Click()
```

```
Frame1.Visible = False
```

```
Frame2.Visible = True
```

```
End Sub
```

```
Private Sub Command3_Click()
```

```
Text2.Text = 3.14 * Val(Text1.Text) * Val(Text1.Text)
```

```
End Sub
```

```
Private Sub Command4_Click()
```

```
Text5.Text = Val(Text3.Text) * Val(Text4.Text)
```

```
End Sub
```

```
Private Sub Command5_Click()
```

```
Text1.Text = ""
```

```
Text2.Text = ""
```

```
End Sub
```

```
Private Sub Command6_Click()
```

```
Text3.Text = ""
```

```
Text4.Text = ""
```

```
Text5.Text = ""
```

```
End Sub
```

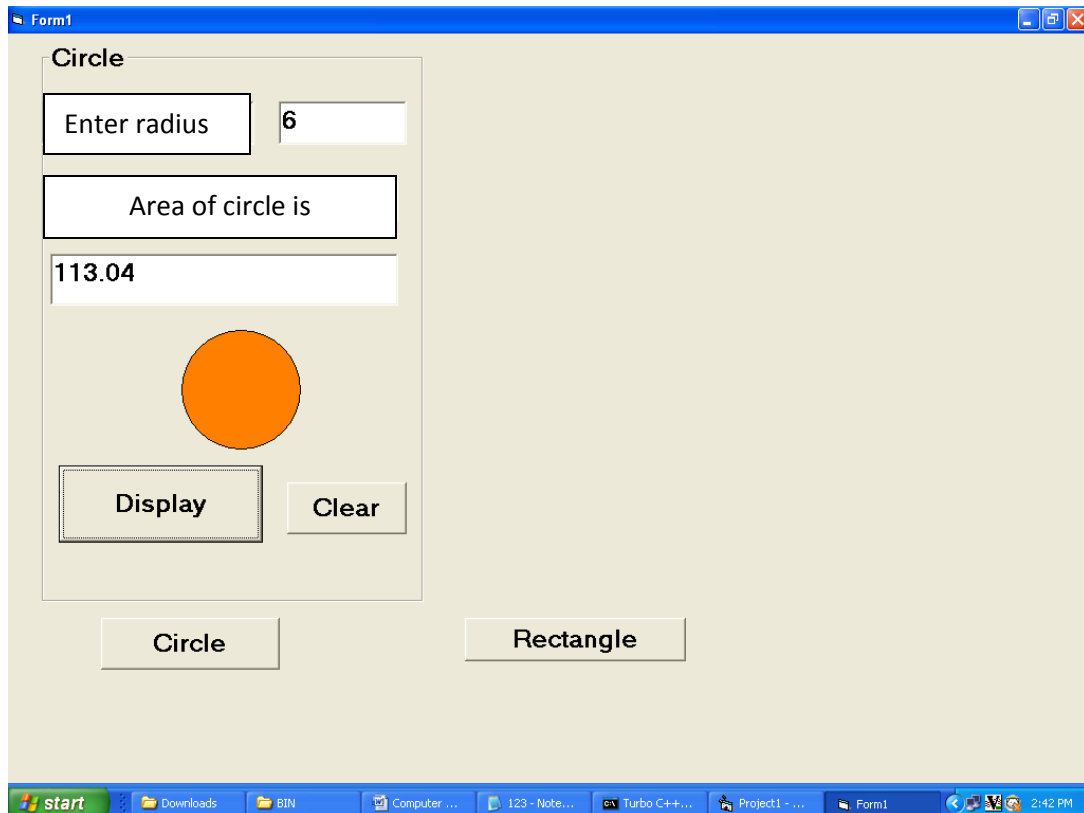
```
Private Sub Form_Load()
```

```
Form1.WindowState = 2
```

```
Frame1.Visible = False
```


```
Frame2.Visible = False
```

```
End Sub
```



Rectangle

Length	5
Breadth	4
Area	
20	



Display Clear

Circle

Rectangle

Experiment No. 11

- a) Write a program in Visual Basic to create a Text Editor, which has the following menu options

File	Edit
→ New	→ Cut
→ Open	→ Copy
→ Save	→ Paste
→ Close	

- b) Enter the program and proper execution of the same on the computer.
c) Obtain a hard copy of the program listing by printing the FRM file.

Program:

```
Private Sub Form_Load()  
WindowState = 2  
End Sub
```

```
Private Sub mnuClose_Click()  
End  
End Sub
```

```
Private Sub mnuCopy_Click()  
Clipboard.SetText rt SelText  
End Sub
```

```
Private Sub mnuCut_Click()  
Clipboard.SetText rt SelText  
rt SelText = ""  
End Sub
```

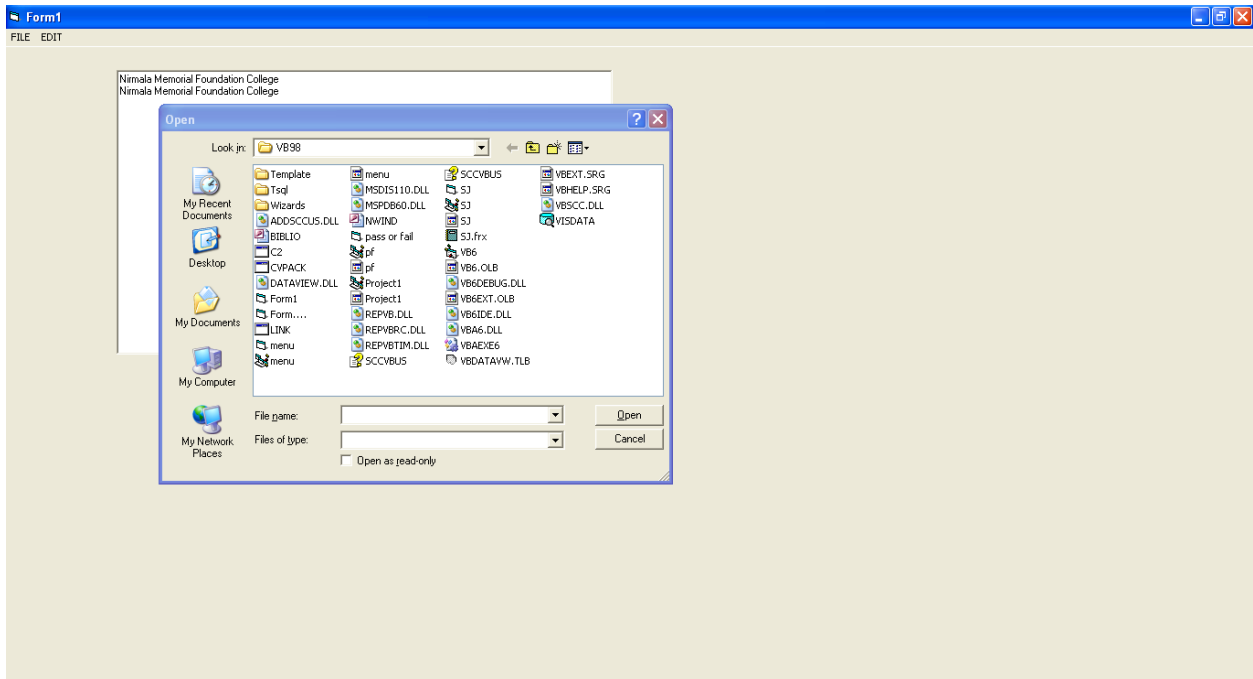
```
Private Sub mnuNew_Click()  
rt.Text = ""  
End Sub
```

```
Private Sub mnuOpen_Click()  
cd.ShowOpen  
rt.FileName = cd.FileName
```

End Sub

```
Private Sub mnuPaste_Click()  
rt.SelText = Clipboard.GetText  
End Sub
```

```
Private Sub mnuSave_Click()  
cd.ShowSave  
rt.FileName = (cd.FileName + ".txt")  
End Sub
```



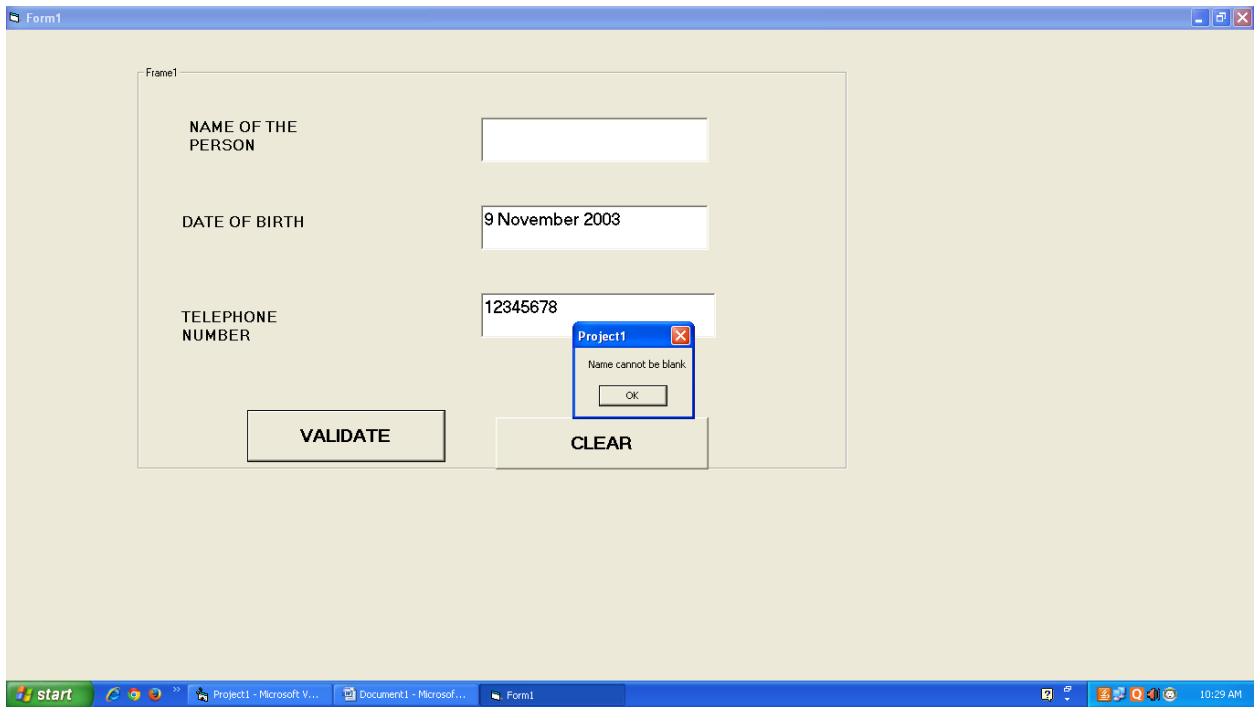
Experiment No. 12

- a) Write a program in Visual Basic that accepts the Name of the Person, Date of Birth and Telephone Number as data during execution. The program must check the validity of contents and must display an appropriate error message along with appropriate corrective suggestions if data is incorrectly entered.
- b) Enter the program and proper execution of the same on the computer.
- c) Obtain a hard copy of the program listing by printing the FRM file.

Program:

```
Private Sub Command1_Click()  
Dim a As Integer  
L = Len(Text1.Text)  
a = 0  
If L = 0 Then  
MsgBox ("Name cannot be blank")  
a = a + 1  
End If  
If IsDate(Text2.Text) <> True Then  
MsgBox ("Enter Valid Date Of Birth")  
a = a + 1  
End If  
If IsNumeric(Text3.Text) <> True Then  
MsgBox ("Enter Valid Telephone Number")  
a = a + 1  
End If  
If a = 0 Then  
MsgBox ("entered is correct")  
End If  
End Sub  
  
Private Sub Command2_Click()  
Text1.Text = ""  
Text2.Text = ""  
Text3.Text = ""  
End Sub
```

```
Private Sub Form_Load()  
Form1.WindowState = 2  
End Sub
```



Experiment No. 13

- a) Write a program in Visual Basic to find the sum of first 100 numbers entered using Do loop.
- b) Enter the program and proper execution of the same on the computer.
- c) Obtain a hard copy of the program listing by printing the FRM file.

Program:

```
Private Sub Command1_Click()
```

```
Dim n As Integer
```

```
Dim s As Integer
```

```
n = 1
```

```
Do While (n <= 100)
```

```
s = s + n
```

```
n = n + 1
```

```
Loop
```

```
Label1.Caption = s
```

```
End Sub
```

```
Private Sub Command4_Click()
```

```
End
```

```
End Sub
```

```
Private Sub Form_Load()
```

```
Form1.WindowState = 2
```

```
End Sub
```

Sum of 1 To 100 nos.

5050

While

Do-while

For

End

Experiment No. 14

- a) Write a program in Visual Basic which accepts a Person's name, Telephone number and e-mail address. Enter the information for 5 different persons. Using TAB properties, display the information.
- b) Enter the program and proper execution of the same on the computer.
- c) Obtain a hard copy of the program listing by printing the FRM file.

Program:

```
Private Sub Form_Load()  
Form1.WindowState = 2  
End Sub  
Private Sub Command1_Click()  
MsgBox ("Welcome" & Text1.Text)  
End Sub
```

```
Private Sub Command2_Click()  
Text1.Text = ""  
Text2.Text = ""  
Text3.Text = ""  
  
End Sub
```

Form1

person 4 person 5

person 1 person 2 person 3

Person name Johnny

Telephone no. 4634565223

Email-id 23@gmail.com

Project1
Welcome Johnny
OK

OK Clear

start www.nirm... 2 Notepad INFOSYS ... 2 Micros... BIN C:\ Turbo C+... 2 Visual ... 12:02 PM

Experiment No. 15

- a) Create a graphic editor using Visual Basic which has the following functions: change color line width, fill color, change border color etc. (Select any three properties to change).
- b) Enter the program and proper execution of the same on the computer.
- c) Obtain a hard copy of the program listing by printing the FRM file.

Program:

```
Private Sub Combo1_Click()
```

```
If Combo1.Text = "Red" Then Shape1.FillColor = vbRed
```

```
If Combo1.Text = "Green" Then Shape1.FillColor = vbGreen
```

```
If Combo1.Text = "Blue" Then Shape1.FillColor = vbBlue
```

```
End Sub
```

```
Private Sub Combo2_Click()
```

```
If Combo2.Text = "10" Then Shape1.BorderWidth = 10
```

```
If Combo2.Text = "20" Then Shape1.BorderWidth = 20
```

```
If Combo2.Text = "30" Then Shape1.BorderWidth = 30
```

```
End Sub
```

```
Private Sub Combo3_Click()
```

```
If Combo3.Text = "Red" Then Shape1.BorderColor = vbRed
```

```
If Combo3.Text = "Green" Then Shape1.BorderColor = vbGreen
```

```
If Combo3.Text = "Blue" Then Shape1.BorderColor = vbBlue
```

```
End Sub
```

```
Private Sub Form_Load()
```

```
Form1.WindowState = 2
```

```
Combo1.AddItem "Red"
```

```
Combo1.AddItem "Green"
```

```
Combo1.AddItem "Blue"
```

```
Combo2.AddItem "10"
```

```
Combo2.AddItem "20"
```

```
Combo2.AddItem "30"
```

```
Combo3.AddItem "Red"  
Combo3.AddItem "Green"  
Combo3.AddItem "Blue"
```

End Sub

