



***RABIA BA700L***

***2022-BSE-067***

***P7 LAB MANUAL***

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## **LAB #1**

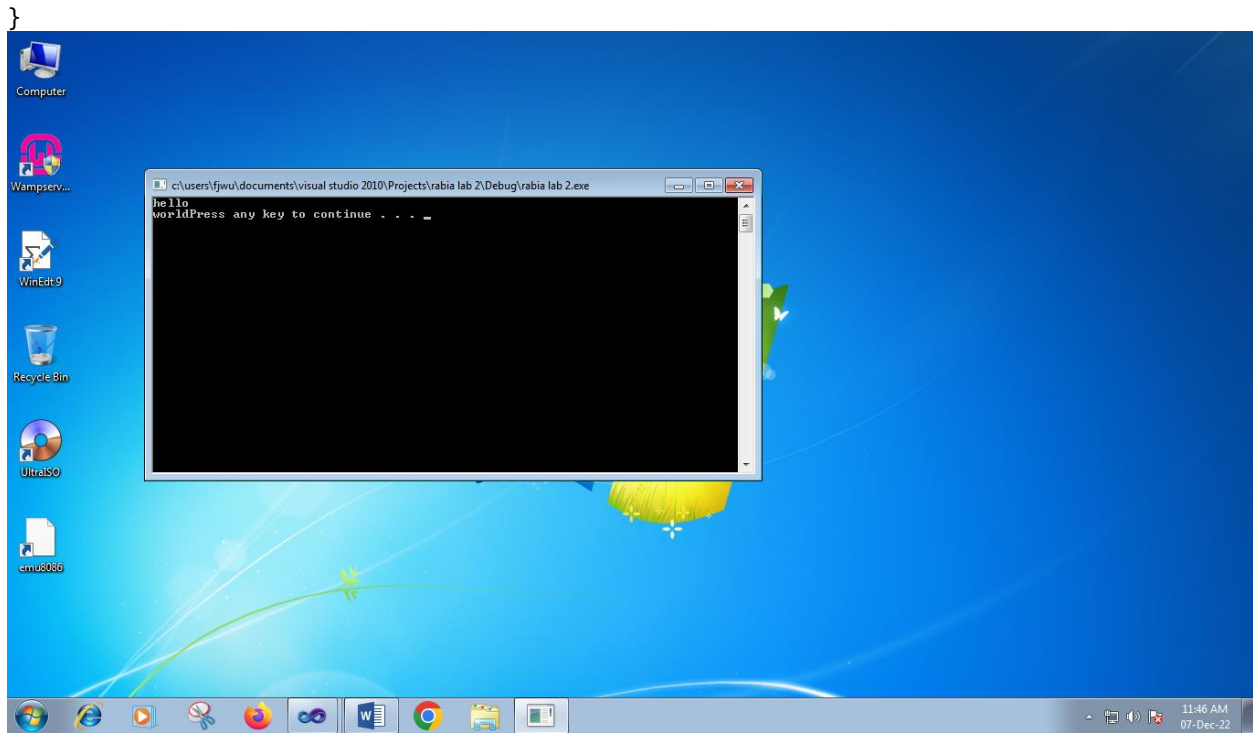
### **Program # 1**

```
// rabia lab 2.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

//int main()

int _tmain(int argc, _TCHAR* argv[])
{
    cout<<"hello"<<endl<<"world";
    system("pause");
    return 0;
}
```



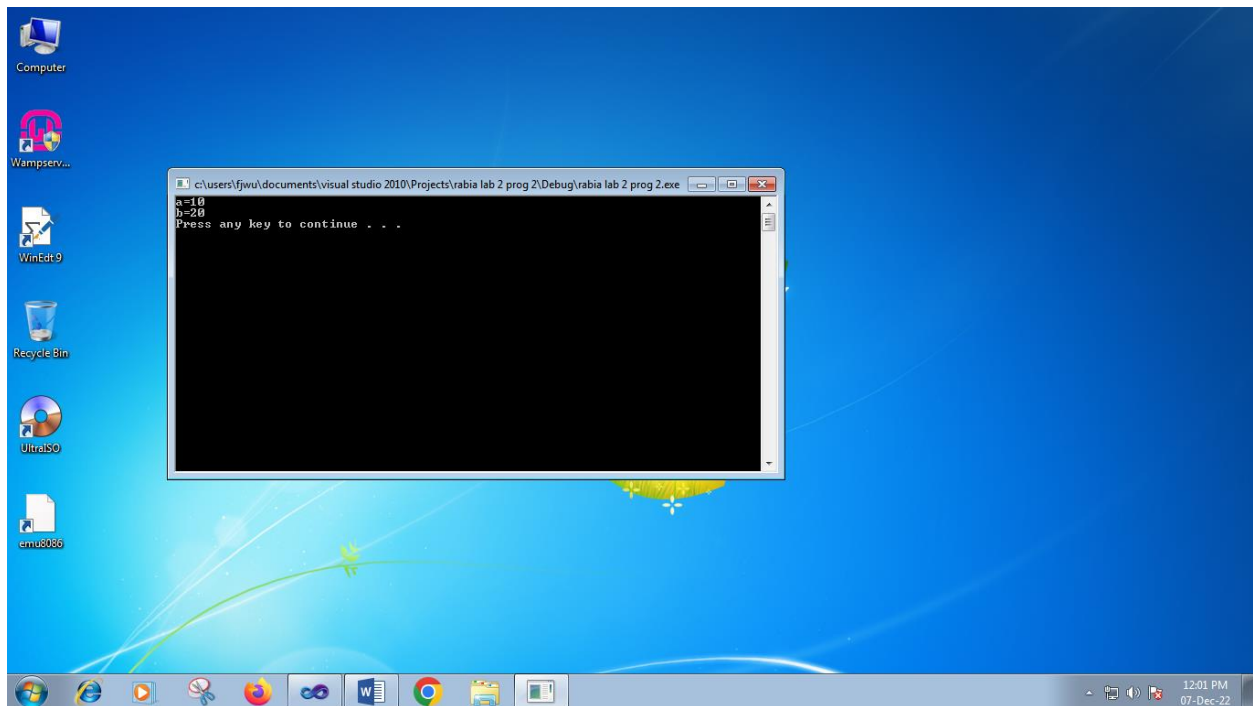
# LAB #2

## PROGRAM # II

```
// rabia lab 2 prog 2.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>;
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{
    int a;
    int b;
    a=10;
    b=20;
    cout<<"a="<<a<<endl;
    cout<<"b="<<b<<endl;
    system("pause");
    return 0;
}
```

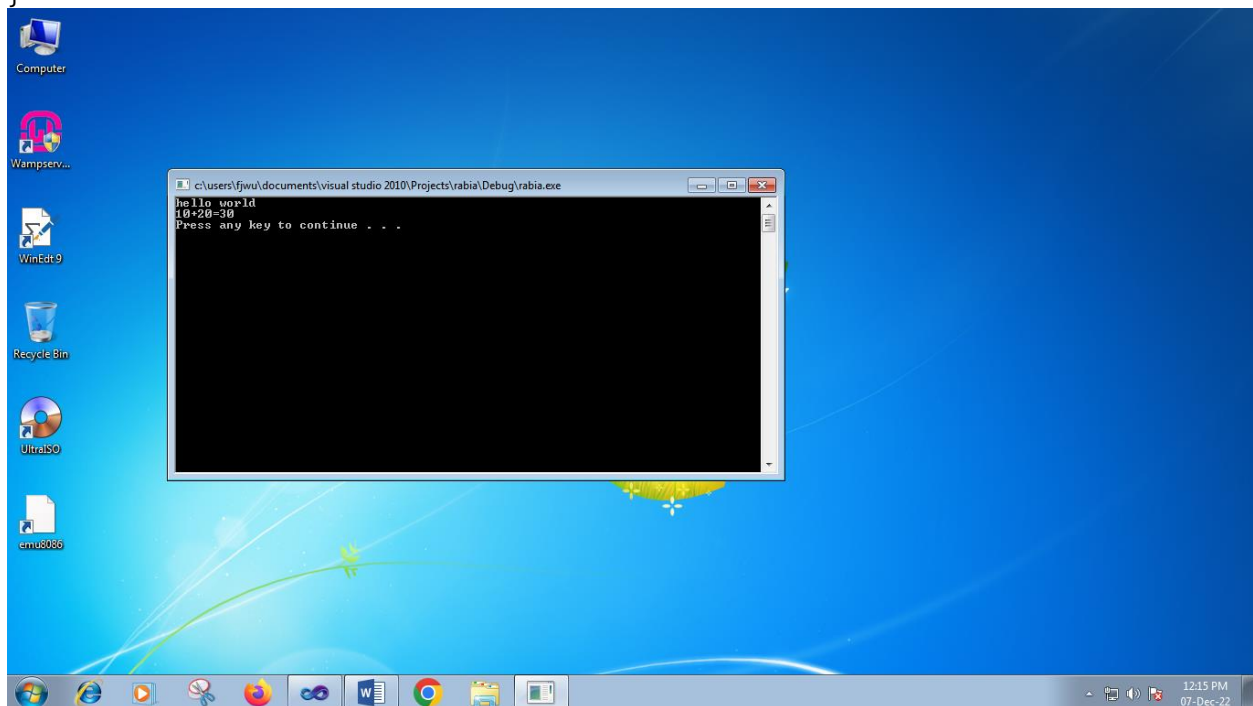


# PROGRAM # III

```
// rabia.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>;  
using namespace std;
```

```
int _tmain(int argc, _TCHAR* argv[])  
{  
    cout<<"hello world"<<endl;  
    int a=10;  
    int b=20;  
    int c;  
    c=a+b;  
    cout<<a<<"+"<<b<<"="<<c<<endl;  
    system("pause");  
  
    return 0;  
}
```

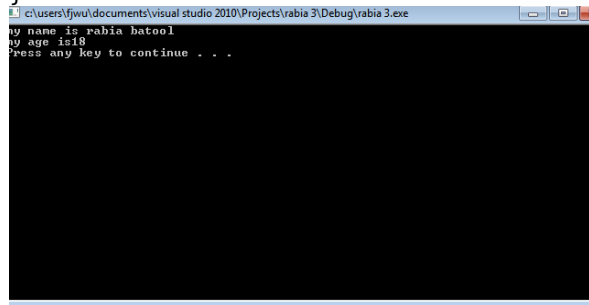


## TASK :2

```
// rabia 3.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>;  
using namespace std;
```

```
int _tmain(int argc, _TCHAR* argv[])  
{  
    int age=18;  
    cout<<"my name is rabia batool"<<endl<<"my age is"<<age<<endl;  
    system("pause");  
  
    return 0;  
}
```

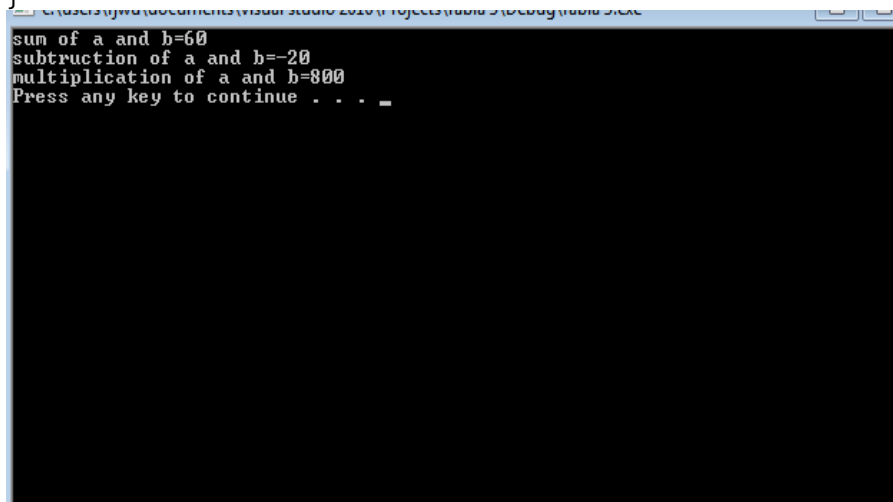


# TASK :3

```
// rabia 3.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>;  
using namespace std;
```

```
int _tmain(int argc, _TCHAR* argv[])  
{  
    int a=20;  
    int b=40;  
    int x;  
    int y;  
    int z;  
    x=a+b;  
    y=a-b;  
    z=a*b;  
    cout<<"sum of a and b="<<x<<endl;  
    cout<<"subtruction of a and b="<<y<<endl;  
    cout<<"multiplication of a and b="<<z<<endl;  
    system("pause");  
  
    return 0;  
}
```



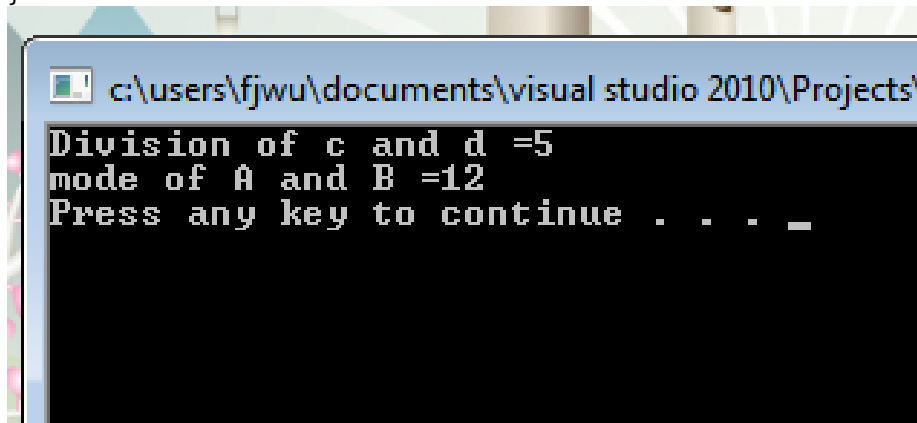
```
C:\Users\jwa\Documents\Visual Studio 2010\Projects\rabia 3\Debug\rabia 3.exe  
sum of a and b=60  
subtruction of a and b=-20  
multiplication of a and b=800  
Press any key to continue . . . _
```

# TASK :4

```
// rabia4.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>;
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{
    int A=12;
    int B=13;
    int x;
    float c=10.0;
    float d=2.0;
    int y;
    x=A%B;
    y=c/d;
    cout<<"Division of c and d ="<<y<<endl;
    cout<<"mode of A and B ="<<x<<endl;
    system("pause");
    return 0;
}
```

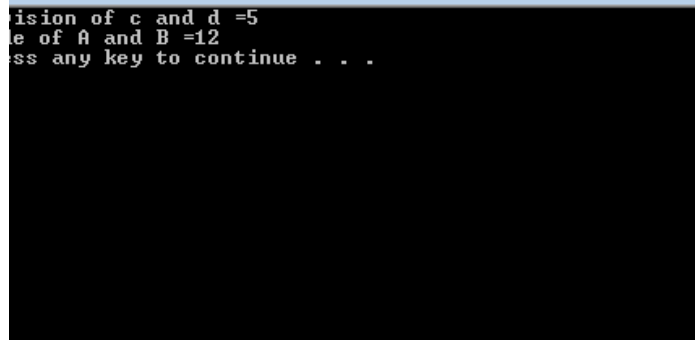


# TASK :5

```
// rabia4.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>;
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{
    int a=12;
    int b=4;
    int c=0;
    cout<<"Before swaping ="<<endl;
    cout<<"a="<<a<<endl;
    cout<<"b="<<b<<endl;
    c=a;
    b=c;
    a=b;
    cout<<"after swaping ="<<endl;
    cout<<"a="<<a<<endl;
    cout<<"b="<<b<<endl;
    system("pause");
    return 0;
}
```



```
ision of c and d =5
le of A and B =12
ss any key to continue . . .
```



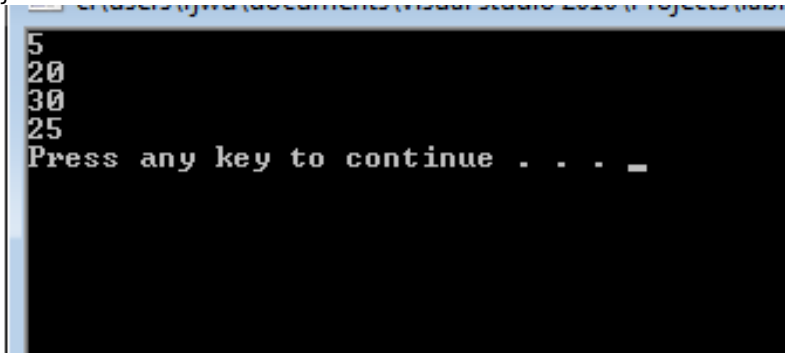
# LAB # 3

## Task 1

```
// lab.rabia 3.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;
```

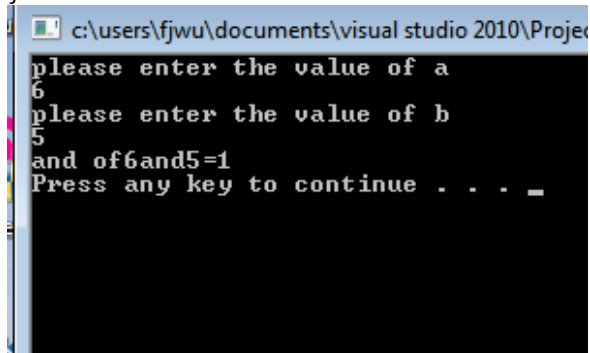
```
int _tmain(int argc, _TCHAR* argv[])  
{int a=5;  
cout<<a<<endl;  
cout<<a*4<<endl;  
cout<<a*6<<endl;  
cout<<a*5<<endl;  
system("pause");  
return 0;  
}
```



## Task #2

```
// lab rabia 3.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{int a,b;  
int c;  
cout<<"please enter the value of a"<<endl;  
cin>>a;  
cout<<"please enter the value of b"<<endl;  
cin>>b;  
c= a&&b;  
cout<<"and of"<<a<<"and"<<b<<"="<<c<<endl;  
  
return 0;  
}
```

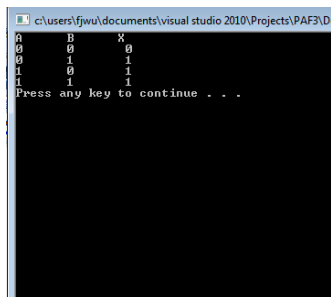


```
c:\users\fjwu\documents\visual studio 2010\Project  
please enter the value of a  
6  
please enter the value of b  
5  
and of6and5=1  
Press any key to continue . . . _
```

# Task3

```
// 3 lab rabia.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{int a,b;  
int a=0; b=1;  
cout<<"A      B      X"<<endl;  
cout<<a<<"      "<<a<<"      "<<(a|a)<<endl;  
cout<<a<<"      "<<b<<"      "<<(a|b)<<endl;  
cout<<b<<"      "<<b<<"      "<<(b|b)<<endl;  
cout<<b<<"      "<<a<<"      "<<(b|a)<<endl;  
    system("pause");  
    return 0;  
}
```



```
c:\users\fwjw\documents\visual studio 2010\Projects\PAF3\De  
A      B      X  
0      0      0  
0      1      1  
1      0      1  
1      1      1  
Press any key to continue . . .
```

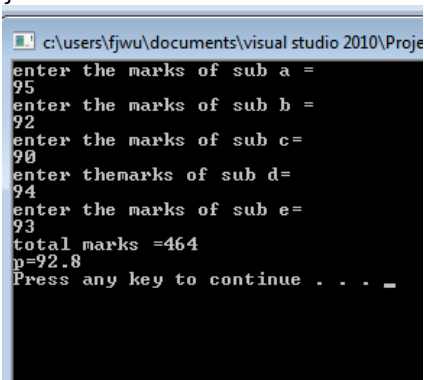
## Task# 4

```
// num 1.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{float A,B,C,D,E;
float Tmarks;
float p;
cout<<"enter the marks of sub a ="<<endl;
cin>>A;
cout<<"enter the marks of sub b ="<<endl;
cin>>B;
cout<<"enter the marks of sub c ="<<endl;
cin>>C;
cout<<"enter themarks of sub d ="<<endl;
cin>>D;
cout<<"enter the marks of sub e ="<<endl;
cin>>E;
Tmarks=A+B+C+D+E;
cout<<"total marks ="<<Tmarks<<endl;
p=(Tmarks*100)/500;
cout<<"p ="<<p<<endl;

return 0;
}
```

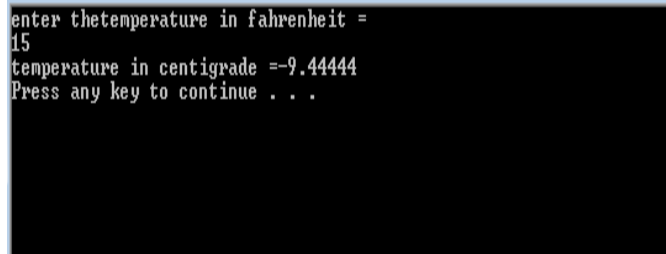


```
c:\users\fjwu\documents\visual studio 2010\Proje
enter the marks of sub a =
95
enter the marks of sub b =
92
enter the marks of sub c =
90
enter themarks of sub d =
94
enter the marks of sub e =
93
total marks =464
p=92.8
Press any key to continue . . . _
```

## Task#5

```
// pf 4.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{float C,F;  
cout<<"enter thetemperature in fahrenheit ="<<endl;  
cin>>F;  
C=(F-32)/1.8;  
cout<<"temperature in centigrade ="<<C<<endl;  
system("pause");  
return 0;  
}
```

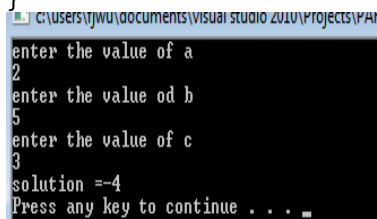


```
enter thetemperature in fahrenheit =  
15  
temperature in centigrade =-9.44444  
Press any key to continue . . .
```

## Task# 6

```
// PAFF.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{float F,a,b,c;  
cout<<"enter the value of a"<<endl;  
cin>>a;  
cout<<"enter the value od b"<<endl;  
cin>>b;  
cout<<"enter the value of c"<<endl;  
cin>>c;  
F=(-b+b*b-4*a*c)/2*a;  
cout<<"solution ="<<F<<endl;  
system("pause");  
return 0;  
}
```



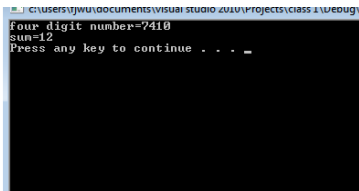
```
C:\Users\TJWU\Documents\Visual Studio 2010\Projects\PAFF\PAFF.cpp  
enter the value of a  
2  
enter the value od b  
5  
enter the value of c  
3  
solution =-4  
Press any key to continue . . .
```

# Task #7

```
// class 1.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;
```

```
int _tmain(int argc, _TCHAR* argv[])  
{int X=7410;  
int d1,d2,d3,d4,rem,sum;  
cout<<"four digit number="<<X<<endl;  
d1=(X)/1000;  
rem=X%1000;  
d2=(rem)/100;  
rem=rem%100;  
d3=(rem)/10;  
rem=rem%10;  
d4=(rem)/1;  
rem=rem%1;  
sum=d1+d2+d3+d4;  
cout<<"sum="<<sum<<endl;  
system("pause");  
return 0;  
}
```



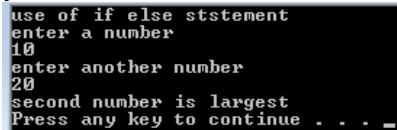
```
C:\Users\jwui\Documents\Visual Studio 2010\Projects\class 1\Debug\...  
four digit number=7410  
sum=12  
Press any key to continue . . . _
```

# LAB#4

## TASK 1

```
application. / rabia lab 4.cpp : Defines the entry point for the console
//
```

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{int a,b;
cout<<"use of if else ststatement"<<endl;
cout<<"enter a number"<<endl;
cin>>a;
cout<<"enter another number"<<endl;
cin>>b;
if(a>b)
cout<<"first number is greater"<<endl;
else
cout<<"second number is largest"<<endl;
system("pause");
return 0;
}
```

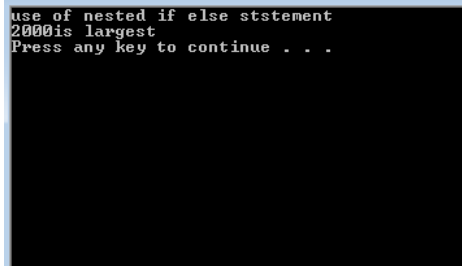


```
use of if else ststatement
enter a number
10
enter another number
20
second number is largest
Press any key to continue . . . _
```



```
/ rabia lab 4.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{int a=100,b=2000,c=300;  
cout<<"use of nested if else statement"<<endl;  
if(a>b)  
{if(a>c)  
cout<<a<<"is largest"<<endl;  
else if (c>b)  
cout<<c<<"is largest"<<endl;  
}  
else  
{if(b>c)  
cout<<b<<"is largest"<<endl;  
else  
    cout<<c<<"is largest"<<endl;  
}  
system("pause");  
    return 0;  
}
```

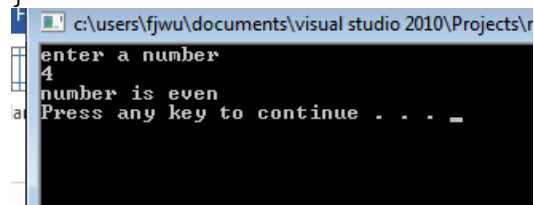


```
use of nested if else ststatement  
2000is largest  
Press any key to continue . . .
```

# TASK 2

```
/ rabia lab 4.cpp : Defines the entry point for the console application.  
//
```

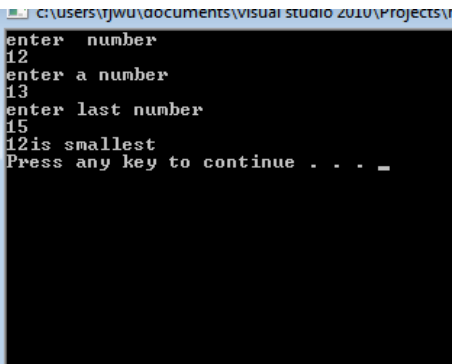
```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{int n;  
cout<<"enter a number"<<endl;  
cin>>n;  
if(n%2==0)  
    cout<<"number is even"<<endl;  
else  
    cout<<"number is odd"<<endl;  
system("pause");  
return 0;  
}
```



# TASK 3

```
/ rabia lab 4.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{int a,b,c;  
cout<<"enter  number"<<endl;  
cin>>a;  
cout<<"enter a number"<<endl;  
cin>>b;  
cout<<"enter last number"<<endl;  
cin>>c;  
if(a<b)  
{if(a<c)  
cout<<a<<"is smallest"<<endl;  
else  
    if(c<b)  
        cout<<c<<"is smallest"<<endl;  
}  
else  
{if(b<a)  
    cout<<b<<"is smallest"<<endl;  
else  
    cout<<c<<"is smallest"<<endl;  
}  
system("pause");  
return 0;  
}
```

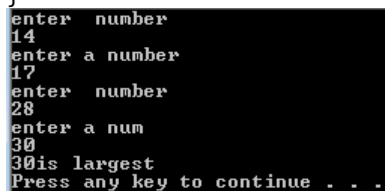


```
C:\users\jwu\documents\visual studio 2010\Projects\  
enter  number  
12  
enter a number  
13  
enter last number  
15  
12is smallest  
Press any key to continue . . . _
```

# TASK 4

```
/ rabia lab 4.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{int a,b,c,d;  
cout<<"enter  number"<<endl;  
cin>>a;  
cout<<"enter a number"<<endl;  
cin>>b;  
cout<<"enter  number"<<endl;  
cin>>c;  
cout<<"enter a num"<<endl;  
cin>>d;  
if(a>b && a>c && a>d)  
cout<<a<<"is largest"<<endl;  
else  
    if(b>a && b>c && b>d)  
        cout<<b<<"is largest"<<endl;  
else  
    if(c>a && c>b && c>d)  
        cout<<c<<"is largest"<<endl;  
else  
        cout<<d<<"is largest"<<endl;  
system("pause");  
return 0;  
}
```

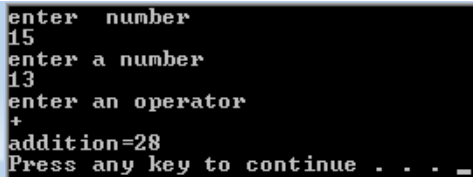


```
enter  number  
14  
enter a number  
17  
enter  number  
28  
enter a num  
30  
30is largest  
Press any key to continue . . .
```

# TASK 5

```
/ rabia lab 4.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{int a,b;  
char op;  
cout<<"enter  number"<<endl;  
cin>>a;  
cout<<"enter a number"<<endl;  
cin>>b;  
cout<<"enter an operator"<<endl;  
cin>>op;  
if(op=='+')  
{cout<<"addition="<<(a+b)<<endl;}  
else  
    if(op=='-')  
    {cout<<"subtraction"<<(a-b)<<endl;}  
else  
    if(op=='*')  
    {cout<<"multiplication="<<(a*b)<<endl;}  
else if (op=='/')  
{cout<<"division="<<(a/b)<<endl;}  
system("pause");  
return 0;  
}
```

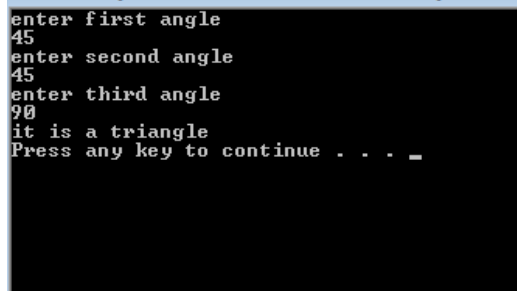


```
enter  number  
15  
enter a number  
13  
enter an operator  
+  
addition=28  
Press any key to continue . . . _
```

# TASK 6

```
/ rabia lab 4.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{int a,b,c,angle;  
cout<<"enter first angle"<<endl;  
cin>>a;  
cout<<"enter second angle"<<endl;  
cin>>b;  
cout<<"enter third angle"<<endl;  
cin>>c;  
angle=a+b+c;  
if(angle==180)  
    cout<<"it is a triangle"<<endl;  
else  
    cout<<"it s not a triangle"<<endl;  
system("pause");  
    return 0;  
}
```



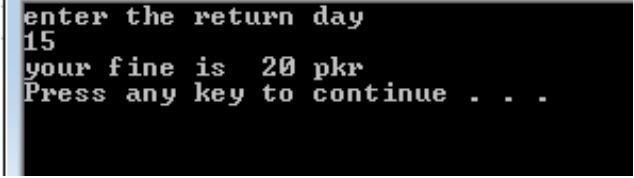
```
enter first angle  
45  
enter second angle  
45  
enter third angle  
90  
it is a triangle  
Press any key to continue . . . _
```

# TASK 7

/ rabia lab 4.cpp : Defines the entry point for the console application.

//

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{int days ;
cout<<"enter the return day"<<endl;
cin>>days;
if(days<=7)
    cout<<"your fine is10pkr"<<endl;
else if(days>=8 || days<=14)
    cout<<"your fine is 20 pkr"<<endl;
else if(days>=15 ||days<=31)
    cout<<"your fine is 50 pkr"<<endl;
else
    cout<<"your membership is cancelled"<<endl;
system("pause");
return 0;
}
```



A screenshot of a console window with a black background and white text. The text shows the program's execution: it prompts 'enter the return day', the user enters '15', the program outputs 'your fine is 20 pkr', and then displays 'Press any key to continue . . .'.

```
enter the return day
15
your fine is 20 pkr
Press any key to continue . . .
```

## Lab #5

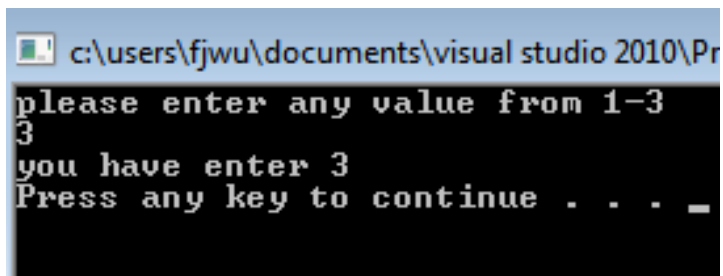
### TASK #1

```
// amjnb.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int a;
cout<<"please enter any value from 1-3"<<endl;
cin>>a;
switch(a)
{case 1:
cout<<"you have enter 1"<<endl;
break;
case 2:
    cout<<"you have entered 2"<<endl;
break;
case 3:
    cout<<"you have enter 3"<<endl;
    break;
default:
    cout<<"you have entered other number" <<endl;
}
system ("pause");

    return 0;
}
```

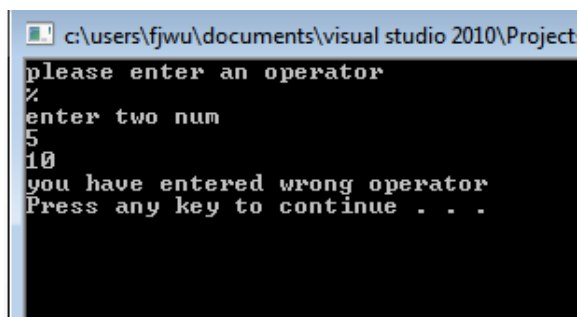




# TASK #2

```
// amjnb.cpp : Defines the entry point for the console application.  
//
```

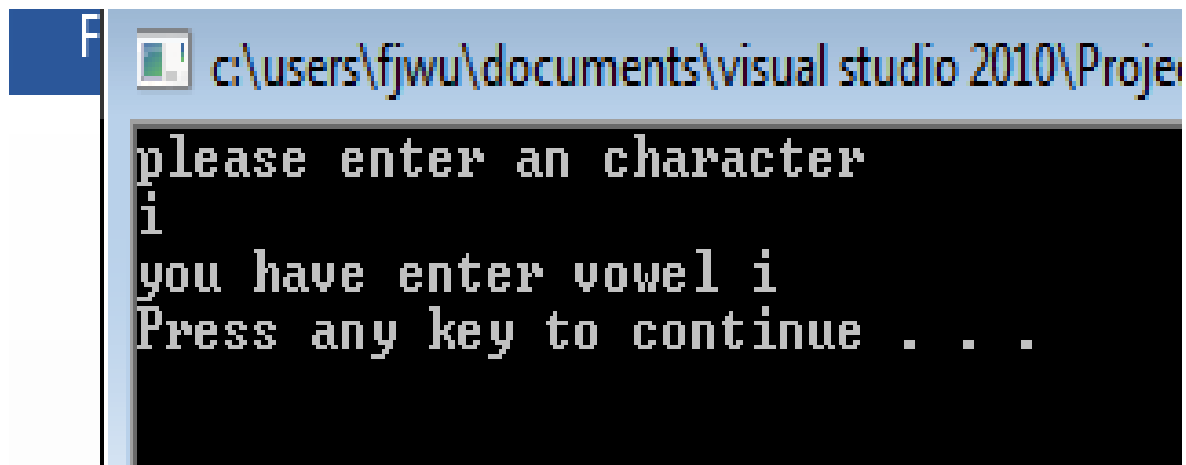
```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{char op,a,b;  
cout<<"please enter an operator"<<endl;  
cin>>op;  
cout<<"enter two num"<<endl;  
cin>>a;  
cin>>b;  
switch(a)  
{case ('+'):   
cout<<"add a and b"<<(a+b)<<endl;  
break;  
case ('-'):   
cout<<"subtract a and b"<<(a-b)<<endl;  
break;  
case ('*'):   
cout<<"multiply a and b"<<(a*b)<<endl;  
break;  
case ('/'):   
cout<<"divide a and b"<<(a/b)<<endl;  
break;  
default:   
cout<<"you have entered wrong operator" <<endl;  
}  
system ("pause");  
  
return 0;  
}
```



## TASK # 3

```
// amjnb.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{char ch;  
cout<<"please enter an character"<<endl;  
cin>>ch;  
switch(ch)  
{case ('a'):  
cout<<"you enter vowel a"<<endl;  
break;  
case ('e'):  
cout<<"you have enter vowel e"<<endl;  
break;  
case ('i'):  
cout<<"you have enter vowel i"<<endl;  
break;  
case ('o'):  
cout<<"you have enter vowel o"<<endl;  
break;  
case ('u'):  
cout<<"you have enter vowel u"<<endl;  
break;  
default:  
cout<<"you have entered consonant" <<endl;  
}  
system ("pause");  
  
return 0;  
}
```



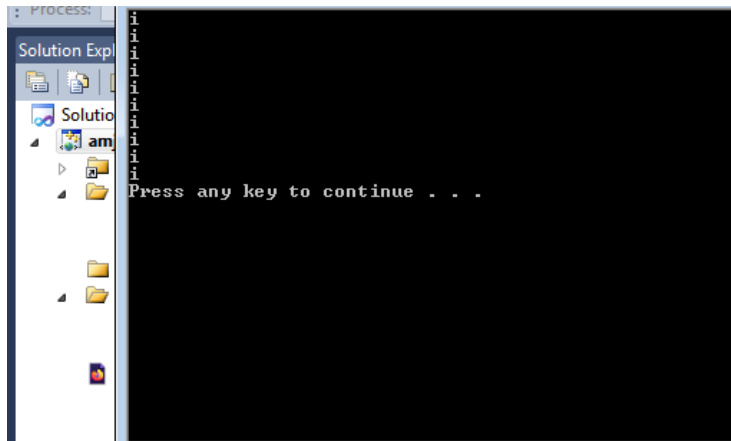
# TASK #4( I)

```
// amjnb.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int i=0;
while(i<10)
{cout<<"i"<<endl;
i++;
}
system ("pause");

    return 0;
}
```

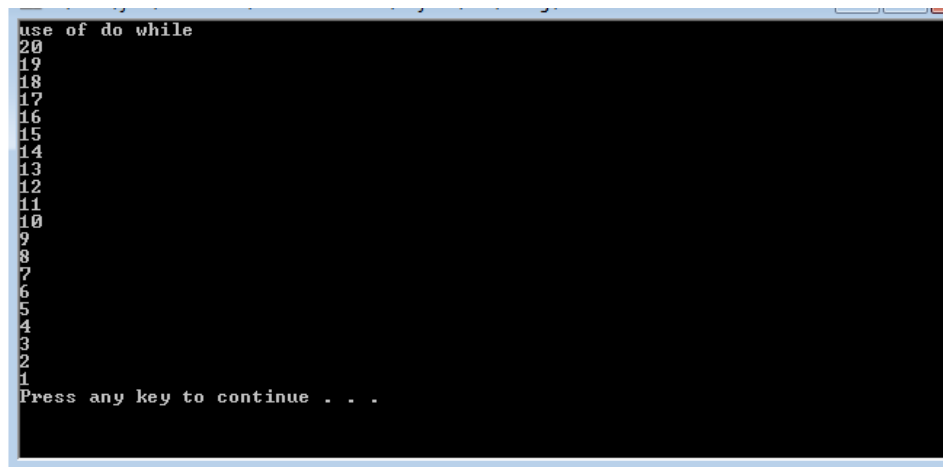


# TASK # 4 (II)

```
// enu.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{
    cout<<"use of do while"<<endl;
    int i=20;
    do
    {cout<<i<<endl;
    i--;
    }while(i>0);
    system ("pause");
    return 0;
}
```

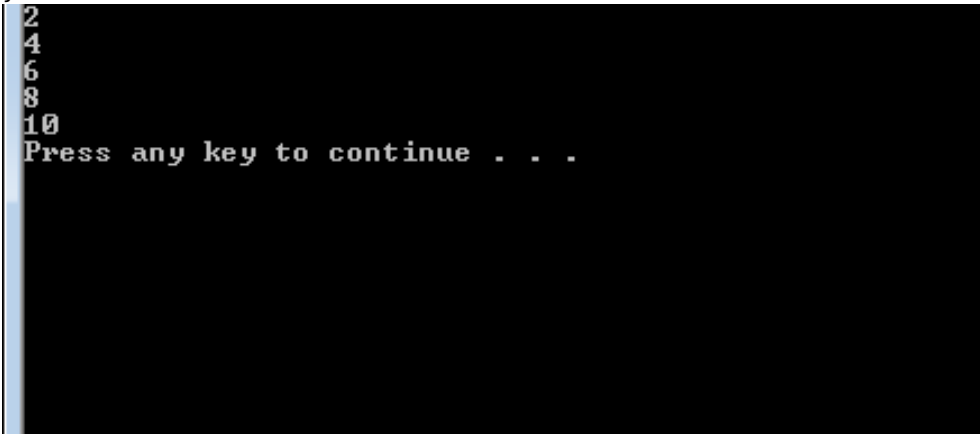


```
use of do while
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
Press any key to continue . . .
```

# TASK #5

```
// amjnb.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{int i,res;  
while(i<=10)  
{res=i*2;  
cout<<res<<endl;  
i++;  
}  
system ("pause");  
  
return 0;  
}
```

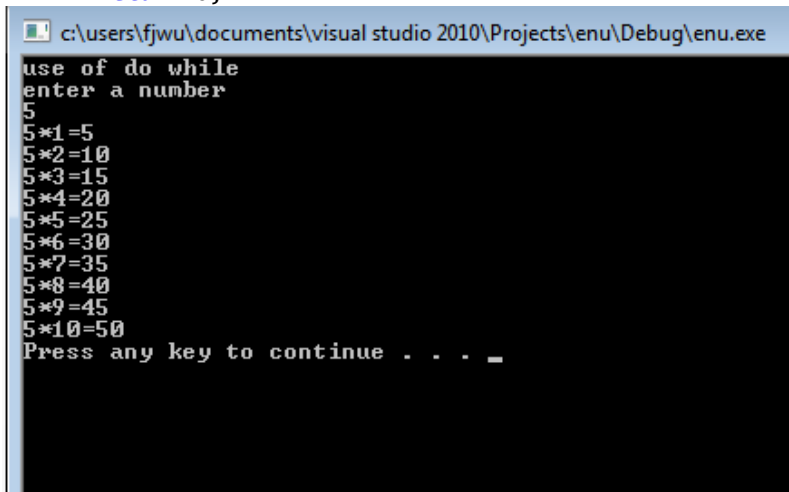


```
2  
4  
6  
8  
10  
Press any key to continue . . .
```

# TASK # 6

```
// enu.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{  
    cout<<"use of do while"<<endl;  
    int i=1,x,res;  
    cout<<"enter a number"<<endl;  
    cin>>x;  
    do  
    {res=x*i;  
        cout<<x<<"*"<<i<<"="<<res<<endl;  
        i++;  
    }while(i<=10);  
    system ("pause");  
    return 0;  
}
```



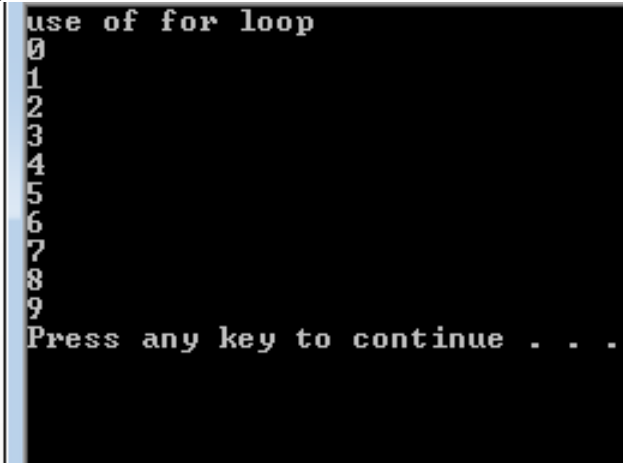
```
c:\users\fjwu\documents\visual studio 2010\Projects\enu\Debug\enu.exe  
use of do while  
enter a number  
5  
5*1=5  
5*2=10  
5*3=15  
5*4=20  
5*5=25  
5*6=30  
5*7=35  
5*8=40  
5*9=45  
5*10=50  
Press any key to continue . . . _
```

# LAB #6

## TASK 1

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

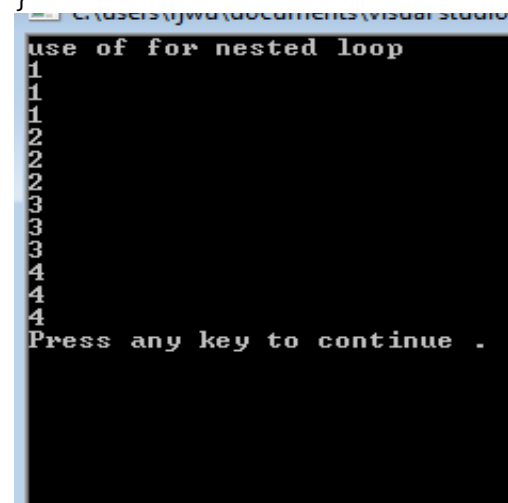
```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{cout<<"use of for loop"<<endl;  
int i;  
for(i=0;i<10;i++)  
{  
    cout<<i<<endl;  
}  
system("pause");  
return 0;  
}
```



```
use of for loop  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
Press any key to continue . . .
```

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{cout<<"use of for nested loop"<<endl;  
  int i,j;  
  for(i=1;i<=4;i++)  
  {for(j=1;j<=3;j++)  
  {  
      cout<<i<<"\t"<<endl;  
  }  
}  
system("pause");  
  return 0;  
}
```



```
C:\Users\jwa\documents\visual studio  
use of for nested loop  
1  
1  
1  
2  
2  
2  
3  
3  
3  
4  
4  
4  
Press any key to continue .
```



```

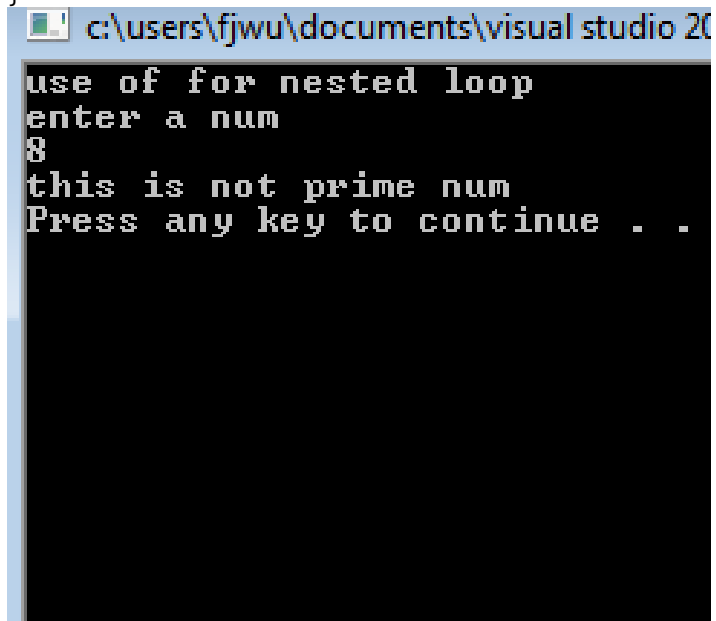
// SGWYWET.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{cout<<"use of for nested loop"<<endl;
int i,n,count=0;
cout<<"enter a num"<<endl;
cin>>n;

for(i=2;i<=n;i++)
{if(n%i==0)
{
    count=1;
    break;
}
}
if(count==0)
    cout<<"this is prime num"<<endl;
else
    cout<<"this is not prime num"<<endl;

system("pause");
return 0;
}

```



```

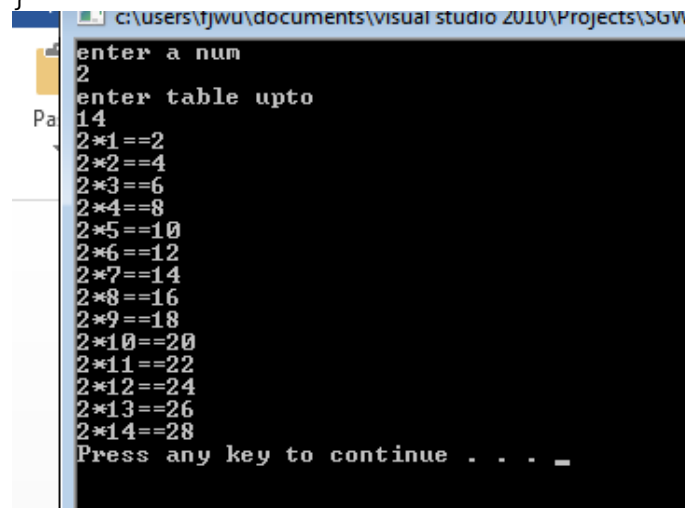
c:\users\fjwu\documents\visual studio 2010\...
use of for nested loop
enter a num
8
this is not prime num
Press any key to continue . .

```

# Task#2

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{int i,x,j,res;  
cout<<"enter a num "<<endl;  
cin>>x;  
cout<<"enter table upto"<<endl;  
cin>>j;  
for(i=1;i<=j;i++)  
{  
    res=i*x;  
    cout<<x<<"*"<<i<<"=="<<res<<endl;  
}  
system("pause");  
return 0;  
}
```

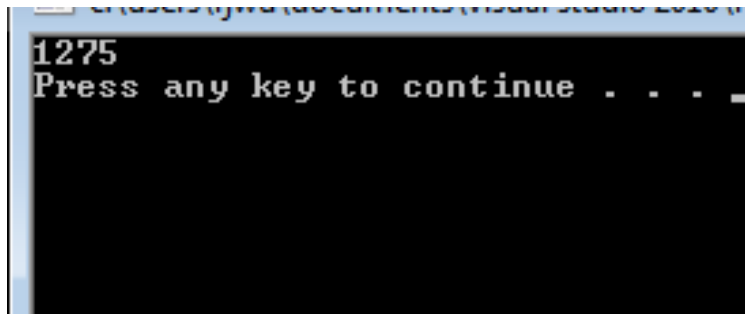


```
C:\users\tjwu\documents\visual studio 2010\Projects\SGWYWET\SGWYWET.cpp  
enter a num  
2  
enter table upto  
14  
2*1==2  
2*2==4  
2*3==6  
2*4==8  
2*5==10  
2*6==12  
2*7==14  
2*8==16  
2*9==18  
2*10==20  
2*11==22  
2*12==24  
2*13==26  
2*14==28  
Press any key to continue . . . _
```

# Task #3

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

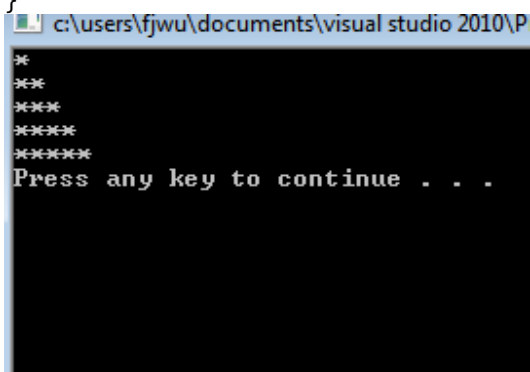
```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _return 0;  
}  
tmain(int argc, _TCHAR* argv[])  
{int i,res=0;  
for(i=1;i<=50;i++)  
{  
    res=res+i;  
}  
    cout<<res<<endl;  
  
system("pause");
```



# Task #4

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

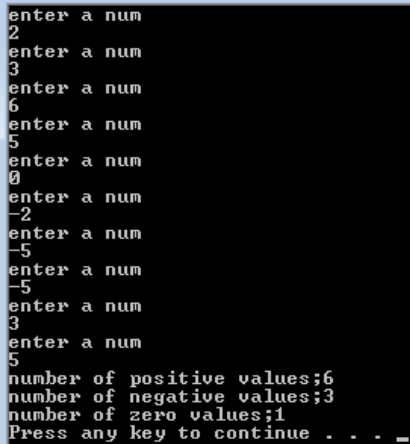
```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{  
    for(int j=1;j<=5;j++)  
    {  
  
        for(int i=1;i<=j;i++)  
  
            cout<<"*";  
            cout<<endl;  
  
    }  
    system("pause");  
    return 0;  
}
```



# Task#5

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{  
    int n=0,np=0,nn=0,nz=0;  
    for(int i= 1;i<=10;i++)  
    {  
        cout<<"enter a num"<<endl;  
        cin>>n;  
        if(n<0)  
            nn++;  
        else if (n>0)  
            np++;  
        else if (n==0)  
            nz++;  
    }  
    cout<<"number of positive values;"<<np<<endl;  
    cout<<"number of negative values;"<<nn<<endl;  
    cout<<"number of zero values;"<<nz<<endl;  
    system("pause");  
    return 0;  
}
```



```
enter a num  
2  
enter a num  
3  
enter a num  
6  
enter a num  
5  
enter a num  
0  
enter a num  
-2  
enter a num  
-5  
enter a num  
-5  
enter a num  
3  
enter a num  
5  
number of positive values;6  
number of negative values;3  
number of zero values;1  
Press any key to continue . . . _
```

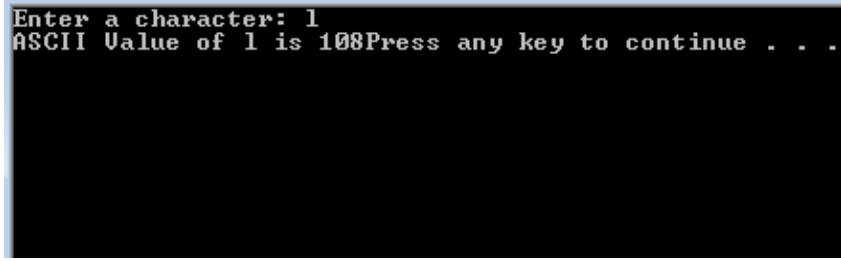
```
cin>>n;  
if(n<0)
```

## Task #6

# Task #6

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{  
    char c;  
    cout << "Enter a character: ";  
    cin >> c;  
    cout << "ASCII Value of " << c << " is " << int(c);  
  
    system("pause");  
    return 0;  
}
```

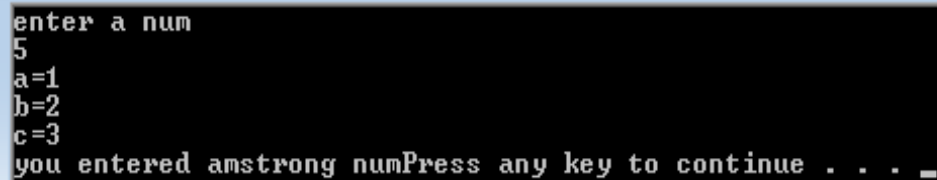


```
Enter a character: l  
ASCII Value of l is 108Press any key to continue . . .
```

# Task #7

```
// SGWYWET.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int _tmain(int argc, _TCHAR* argv[])  
{  
    int i,a,b,c,res;  
    cout<<"enter a num"<<endl;  
    cin>>i;  
    cout<<"a=";  
    cin>>a;  
    cout<<"b=";  
    cin>>b;  
    cout<<"c=";  
    cin>>c;  
    res= (a*a*a)+(b*b*b)+(c*c*c);  
    if(i=res)  
        cout<<"you entered amstrong num";  
    else  
        cout<<"not amstrong";  
    system("pause");  
    return 0;  
}
```



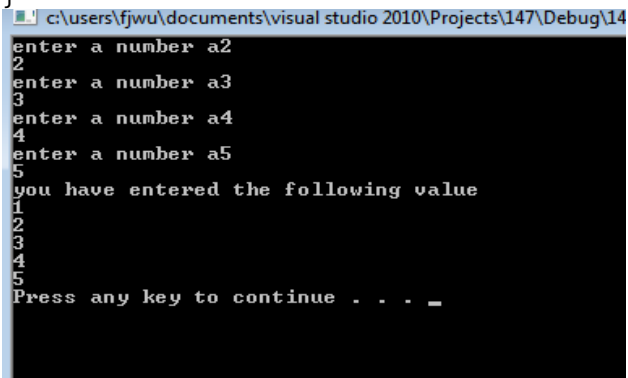
```
enter a num  
5  
a=1  
b=2  
c=3  
you entered amstrong numPress any key to continue . . . _
```

# Lab #7

## Task #1

```
// 147.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>;  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{cout<<"example of arrays"<<endl;  
int a[5];  
for(int i=0;i<5;i++)  
{cout<<"enter a number a"<<i+1<<endl;  
cin>>a[i];  
}cout<<"you have entered the following value"<<endl;  
for(int j=0;j<5;j++)  
    {cout<<a[j]<<endl;}  
system("pause");  
return 0;  
}
```

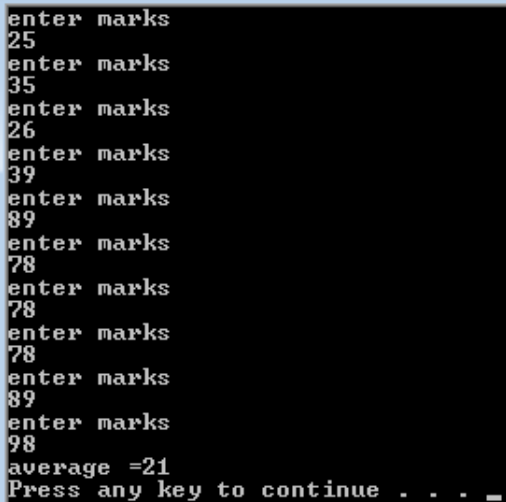


```
c:\users\fjwu\documents\visual studio 2010\Projects\147\Debug\147.exe  
enter a number a1  
1  
enter a number a2  
2  
enter a number a3  
3  
enter a number a4  
4  
enter a number a5  
5  
you have entered the following value  
1  
2  
3  
4  
5  
Press any key to continue . . . _
```



```
// 147.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>;  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{  
    int ave,sum=0,i;  
    int marks[10];  
    for(int i=0;i<10;i++)  
    {cout<<"enter marks"<<endl;  
    cin>>marks[i];}  
    for(int i=0;i<5;i++)  
        sum=sum+marks[i];  
    ave=sum/10;  
    {cout<<"average ="<<ave<<endl;}  
    system("pause");  
    return 0;  
}
```



```
enter marks  
25  
enter marks  
35  
enter marks  
26  
enter marks  
39  
enter marks  
89  
enter marks  
78  
enter marks  
78  
enter marks  
78  
enter marks  
89  
enter marks  
98  
average =21  
Press any key to continue . . . _
```

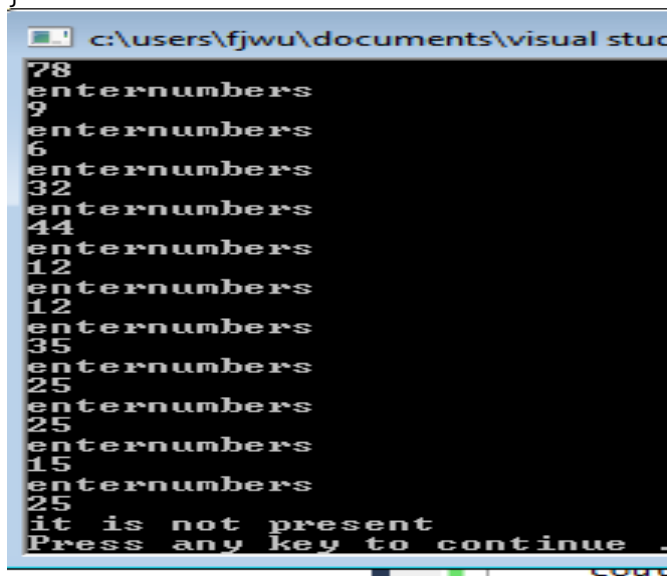
## Task #2

```
// 147.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>;
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{
    int key ,c=0 ;
    int a[15];
    cout<<"enter key"<<endl;
    cin>>key;

    for( int i=0;i<=14;i++)
    {cout<<"enter"<<"numbers"<<endl;
    cin>>a[i];
    }
    if(a[15]==key)
        {cout<<c++;
    cout<<"total same values"<<c<<endl;}
    else
        cout<<"it is not present"<<endl;
    system("pause");
    return 0;
}
```



```
c:\users\fjwu\documents\visual stud
78
enter numbers
9
enter numbers
6
enter numbers
32
enter numbers
44
enter numbers
12
enter numbers
12
enter numbers
35
enter numbers
25
enter numbers
25
enter numbers
15
enter numbers
25
it is not present
Press any key to continue .
```

## Task #3

```
// gsdgfd.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int np=0,nn=0,nz=0;
int a[13];
cout<<"enter number"<<endl;
for(int i=0;i<=13;i++)
{
cin>>a[i];

if(a[i]>0){
    np++;}
else if (a[i]==0){
    nz++;}
else (a[i]<0){
    nn++;}
}
cout<<"negative numbers"<<nn<<endl;
cout<<"positive numbers"<< np<<endl;
cout<<"zero"<<nz<<endl;
system("pause");
return 0;
}
```



```
enter number
1
2
3
3
2
2
1
0
0
0
-9
0
-7
-6
negative numbers3
positive numbers7
zero4
Press any key to continue . .
```

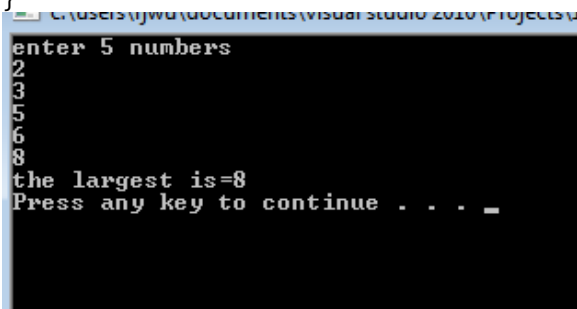
## Task #4

```
// 147.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>;
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int largest=0;
int arr[5];
cout<<"enter 5 numbers"<<endl;
for(int i=0;i<5;i++)
{cin>>arr[i];
if(arr[i]>largest){
    largest=arr[i];
}
}
cout<<"the largest is="<<largest<<endl;

system("pause");
return 0;
}
```



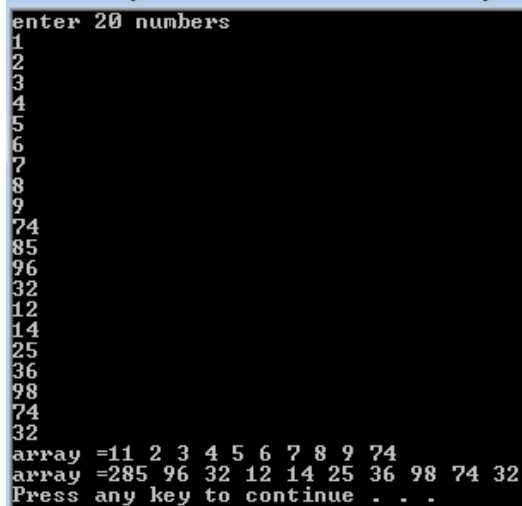
```
C:\Users\ijwa\Documents\Visual Studio 2010\Projects\1
enter 5 numbers
2
3
5
6
8
the largest is=8
Press any key to continue . . . _
```

## Task #5

```
// 147.cpp : Defines the entry point for the console application.
//
```

```
#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int arr[20];
int arr1[10];
int arr2[10];
cout<<"enter 20 numbers"<<endl;
for(int i=0;i<20;i++)
{cin>>arr[i];
}
for(int i=0;i<10;i++)
{arr1[i]=arr[i];
arr2[i]=arr[i +10];
}
cout<<"array =1";
for(int i=0;i<10;i++){
    cout<<arr1[i]<<" ";
}cout<<endl;
cout<<"array =2";
for(int i=0;i<10;i++){
    cout<<arr2[i]<<" ";}
cout<<endl;
system("pause");
return 0;
}
```



```
enter 20 numbers
1
2
3
4
5
6
7
8
9
74
85
96
32
12
14
25
36
98
74
32
array =1 1 2 3 4 5 6 7 8 9 74
array =2 85 96 32 12 14 25 36 98 74 32
Press any key to continue . . .
```

# LAB #8

## Task#1;

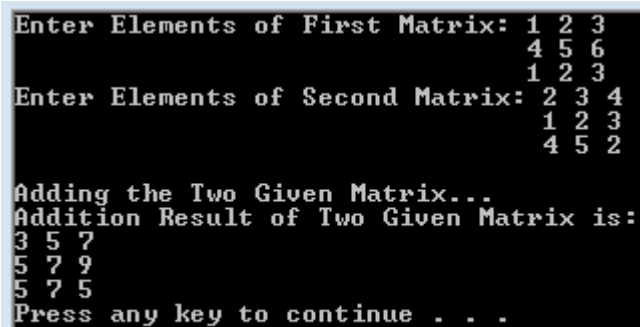
```
// k1k1.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int main()  
{int A[2][3];  
for(int i=0;i<2;i++)  
{  
    for(int j=0;j<3;j++)  
    {cout<<"enter value at index  \t"<<i<<j<<endl;  
    cin>>A[i][j];  
    }}  
for(int w=0;w<2;w++)  
{  
    for(int x=0;x<3;x++)  
    {cout<<"\t"<<A[w][x];  
    }}  
    cout<<endl;  
    system("pause");  
    return 0;  
}
```

```
enter value at index  00  
2  
enter value at index  01  
3  
enter value at index  02  
1  
enter value at index  10  
5  
enter value at index  11  
6  
enter value at index  12  
4  
      2      3      1      5      6      4  
Press any key to continue . . .
```

## Task#2:

```
#include<iostream>
using namespace std;
int main()
{
    int mat1[3][3], mat2[3][3], i, j, mat3[3][3];
    cout<<"Enter Elements of First Matrix: ";
    for(i=0; i<3; i++)
    {
        for(j=0; j<3; j++)
        { cin>>mat1[i][j];}
    }
    cout<<"Enter Elements of Second Matrix: ";
    for(i=0; i<3; i++)
    {
        for(j=0; j<3; j++)
        { cin>>mat2[i][j];}
    }
    cout<<"\nAdding the Two Given Matrix...\n";
    for(i=0; i<3; i++)
    {
        for(j=0; j<3; j++)
        { mat3[i][j] = mat1[i][j]+mat2[i][j];}
    }
    cout<<"Addition Result of Two Given Matrix is:\n";
    for(i=0; i<3; i++)
    {
        for(j=0; j<3; j++)
        { cout<<mat3[i][j]<<" ";
          cout<<endl;}
    }
    system("pause");
    return 0;
}
```

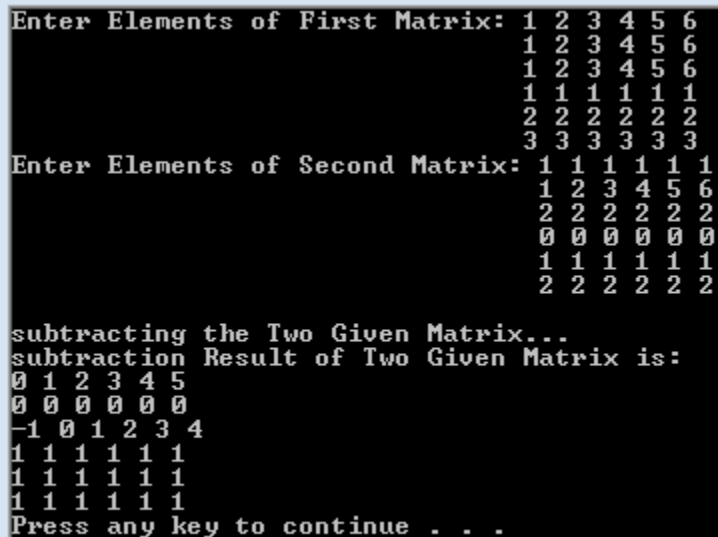


```
Enter Elements of First Matrix: 1 2 3
                                4 5 6
                                1 2 3
Enter Elements of Second Matrix: 2 3 4
                                1 2 3
                                4 5 2

Adding the Two Given Matrix...
Addition Result of Two Given Matrix is:
3 5 7
5 7 9
5 7 5
Press any key to continue . . .
```

# Task #3

```
#include<iostream>
using namespace std;
int main()
{
    int mat1[6][6], mat2[6][6], i, j, mat3[6][6];
    cout<<"Enter Elements of First Matrix: ";
    for(i=0; i<6; i++)
    {
        for(j=0; j<6; j++)
        { cin>>mat1[i][j];}
    }
    cout<<"Enter Elements of Second Matrix: ";
    for(i=0; i<6; i++)
    {
        for(j=0; j<6; j++)
        { cin>>mat2[i][j];}
    }
    cout<<"\nAdding the Two Given Matrix...\n";
    for(i=0; i<6; i++)
    {
        for(j=0; j<6; j++)
        { mat3[i][j] = mat1[i][j]-mat2[i][j];}
    }
    cout<<"Addition Result of Two Given Matrix is:\n";
    for(i=0; i<6; i++)
    {
        for(j=0; j<6; j++)
        { cout<<mat3[i][j]<<" ";
          cout<<endl;}
    }
    system("pause");
    return 0;
}
```



```
Enter Elements of First Matrix: 1 2 3 4 5 6
                                1 2 3 4 5 6
                                1 2 3 4 5 6
                                1 1 1 1 1 1
                                2 2 2 2 2 2
                                3 3 3 3 3 3
Enter Elements of Second Matrix: 1 1 1 1 1 1
                                1 2 3 4 5 6
                                2 2 2 2 2 2
                                0 0 0 0 0 0
                                1 1 1 1 1 1
                                2 2 2 2 2 2

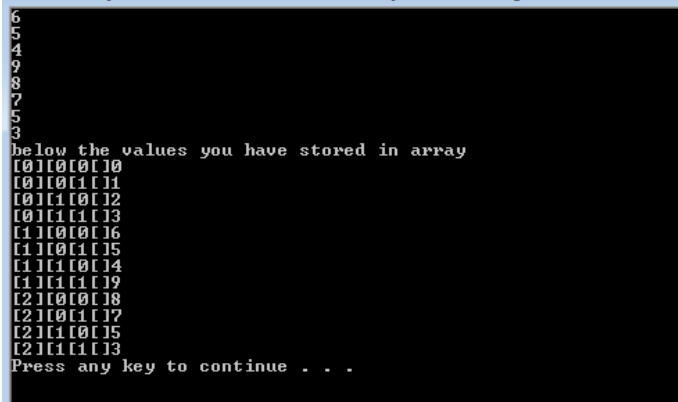
subtracting the Two Given Matrix...
subtraction Result of Two Given Matrix is:
0 1 2 3 4 5
0 0 0 0 0 0
-1 0 1 2 3 4
1 1 1 1 1 1
1 1 1 1 1 1
1 1 1 1 1 1
Press any key to continue . . .
```



# Task#4

```
// 2010.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
  
int _tmain(int argc, _TCHAR* argv[])  
{int array[3][2][2];  
cout<<"enter 12 values";  
for(int i=0;i<3;i++)  
{for(int j=0;j<2;j++)  
{ for(int k=0;k<2;k++)  
{cin>>array[i][j][k];  
}  
}  
}  
cout<<"below the values you have stored in array"<<endl;  
for(int i=0;i<3;i++)  
{for(int j=0;j<2;j++)  
{ for(int k=0;k<2;k++)  
cout<<"["<<i<<"["<<j<<"["<<k<<"["<<"["<<array[i][j][k]<<endl;  
}  
}  
  
system("pause");  
return 0;  
}
```




```
6  
5  
4  
3  
2  
1  
below the values you have stored in array  
[0][0][0]  
[0][0][1]  
[0][1][0]  
[0][1][1]  
[1][0][0]  
[1][0][1]  
[1][1][0]  
[1][1][1]  
[2][0][0]  
[2][0][1]  
[2][1][0]  
[2][1][1]  
Press any key to continue . . .
```

# LAB #9

## Task 1:

Sample 1:

```
#include "stdafx.h"
#include<iostream>
using namespace std;
void print(); // function declaration
void print() // function definition
{
    cout<<"i am in function"<<endl;
}
int _tmain(int argc, _TCHAR* argv[])
{ print();
  system("pause");
  return 0;
}
```

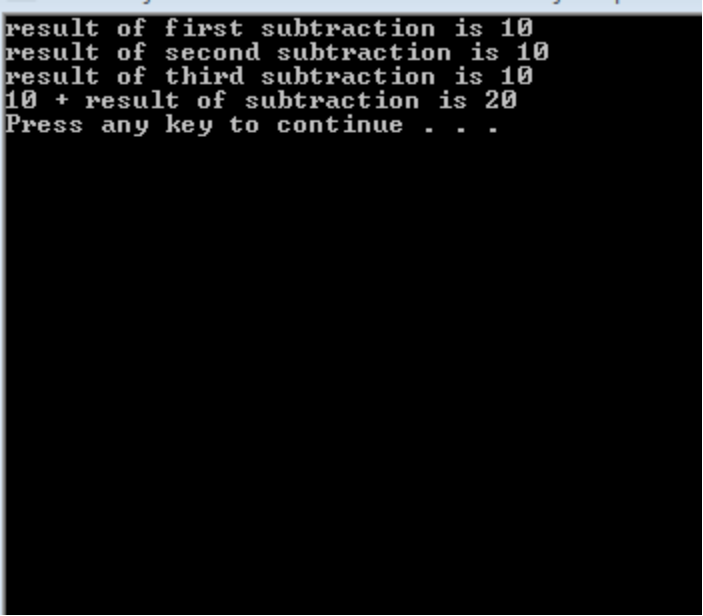


```
i am in function
Press any key to continue . . .
```

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int sum(int,int); // function declaration
int sum(int x,int y) // function definition
{
    return x+y;
}
int _tmain(int argc, _TCHAR* argv[])
{ int a=10;
  int b=20;
  int z;
  z= sum(a,b); //function calling
  cout<<z;
  system("pause");
  return 0;
}
```

C:\Users\jwd\documents\visual studio 2010\Projects\pr10  
30Press any key to continue . . .

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int sub(int x,int y)
{ int z;
  z=x-y;
  return z; }
int _tmain(int argc, _TCHAR* argv[])
{
int a=20,b=10,c=5,d,e,f;
d=sub(a,b);
cout<<"result of first subtraction is "<<d<<endl;
e=sub(20,10);
cout<<"result of second subtraction is "<<e<<endl;
cout<<"result of third subtraction is "<<sub(20,10)<<endl;
f=10+sub(a,10);
cout<<"10 + result of subtraction is " <<f<<endl;
system("pause");
return 0;
}
```



```
result of first subtraction is 10
result of second subtraction is 10
result of third subtraction is 10
10 + result of subtraction is 20
Press any key to continue . . .
```

## Task#2:

Give answers to the following:

1. Write the declaration of a function named: power, to compute  $x^n$ .

`Void _power(x ,n )`

2. Call the function: `int factorial(int) ;`

`factorial(a);`

3. Which of these are valid function declarations:

A `void function();`

B `void function(void);`

C `void function(int);`

D `function(int);`

E `int function();`

A ,b ,c ,e are valid

**Task 2 :**

**Write the output of the following code fragments.**

1. `int square(int);`

`int main()`

`{`

`for(int i=0;i<10;i+=2)`

`cout <<< square(i) <<< endl;`

`return 0;`

`}`

`int square(int a)`

```
{  
return a*a;  
}
```

**Output:**

```
0  
4  
16  
36  
64  
-----  
Process exited after 0.005955 seconds with return value 0  
Press any key to continue . . . _
```

```
2. int minimum(int,int);  
  
int main()  
{  
int x=10,y=5;  
int m = minimum(x,y);  
cout<<<m<<<endl;  
return 0;  
}
```

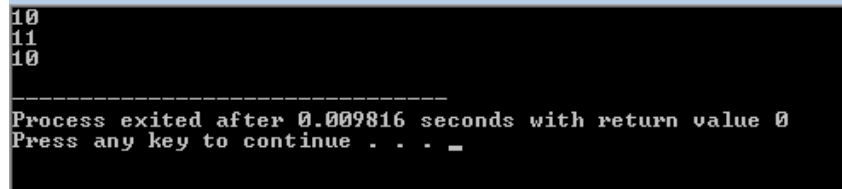
```

int minimum(int a,int b)
{
if (a<b)
return a;
else
return b;

}

```

### **Output:**



```

10
11
10
-----
Process exited after 0.009816 seconds with return value 0
Press any key to continue . . . _

```

```

3. void increment(int);

int main()
{
int x=10;
cout<<< x <<<endl;
increment(x);
cout<<< x <<<endl;
return 0;
}

```

```
void increment(int x)
{
    x++;
    cout<<< x <<<endl;
```

**output:**

```
5
-----
Process exited after 0.02987 seconds with return value 0
Press any key to continue . . . _
}
```



## Task#3:

Create a function which display your Name , Reg no, Class, Section.

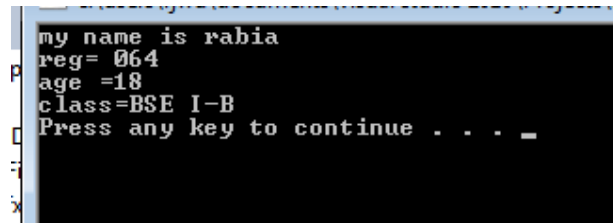
Display all the things within the body of function, call the function in main.

```
// lkj.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;
void display();

int _tmain(int argc, _TCHAR* argv[])
{
    display();
    system("pause");
    return 0;
}

void display()
{
    cout<<"my name is rabia"<<endl;
    cout<<"reg= 064"<<endl;
    cout<<"age =18"<<endl;
    cout<<"class=BSE I-B"<<endl;
}
```

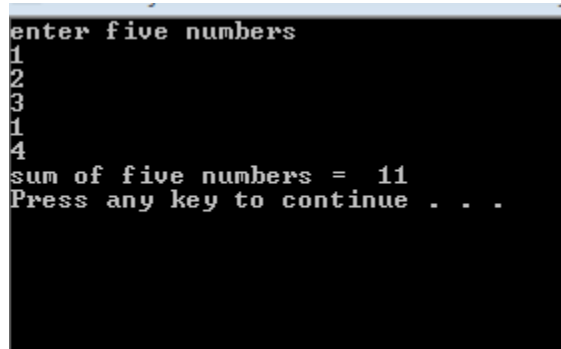
A screenshot of a Windows command prompt window with a black background and white text. The output of the program is displayed line by line: "my name is rabia", "reg= 064", "age =18", and "class=BSE I-B". Below these lines, the text "Press any key to continue . . . \_" is shown, indicating the program is waiting for a key press to terminate. The window has a standard Windows title bar at the top.

# Task#4:

Create a function SUM in C++ which calculates and return the sum of 5 numbers entered by user.

```
// lkj.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int sum(int,int,int,int,int);  
  
int _tmain(int argc, _TCHAR* argv[])  
{  
    int a,b,c,d,e,s;  
    cout<<"enter five numbers"<<endl;  
    cin>>a;  
    cin>>b;  
    cin>>c;  
    cin>>d;  
    cin>>e;  
    s = sum(a,b,c,d,e);  
    cout<<"sum of five numbers = "<<s<<endl;  
    system("pause");  
    return 0;  
}  
int sum(int k,int l ,int m,int n,int o)  
{  
    int sum=0;  
    sum=k+l+m+n+o;  
    return sum;  
}
```



```
enter five numbers  
1  
2  
3  
1  
4  
sum of five numbers = 11  
Press any key to continue . . .
```

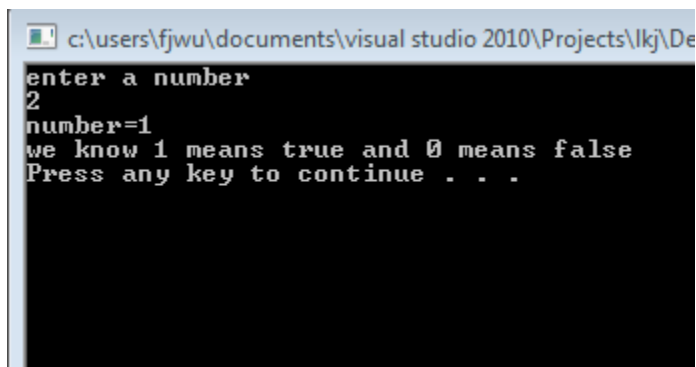
# Task#5:

Create a function `is_even` which take a number as argument, return TRUE if number is even.

Take number from user at run time.

```
// lkj.cpp : Defines the entry point for the console application.  
//
```

```
#include "stdafx.h"  
#include<iostream>  
using namespace std;  
int even(int);  
  
int _tmain(int argc, _TCHAR* argv[])  
{  
    int a,s;  
    cout<<"enter a number"<<endl;  
    cin>>a;  
  
    s = even(a);  
    cout<<"number="<<s<<endl;  
    cout<<"we know 1 means true and 0 means false"<<endl;  
    system("pause");  
    return 0;  
}  
  
bool b1= true;  
bool b2=false;  
int even(int k)  
{  
    if( k%2==0)  
        return b1;  
    else  
        return b2;  
}
```



```
c:\users\fjwu\documents\visual studio 2010\Projects\lkj\De  
enter a number  
2  
number=1  
we know 1 means true and 0 means false  
Press any key to continue . . .
```

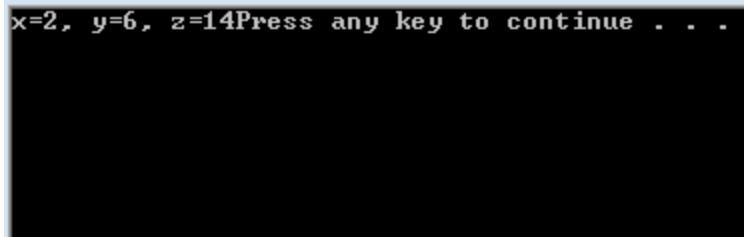
# Lab#10:

## Task#1:

Compile all sample programs

```
#include "stdafx.h"
#include<iostream>
using namespace std;
void duplicate (int& a, int& b, int& c)
{
    a=a*2;
    b=b*2;
    c=c*2;
}

int _tmain(int argc, _TCHAR* argv[])
{
    int x=1, y=3, z=7;
    duplicate (x, y, z);
    cout << "x=" << x << ", y=" << y << ", z=" << z;
    system("pause");
    return 0;
}
```



x=2, y=6, z=14Press any key to continue . . .

```
#include "stdafx.h"
#include<iostream>
using namespace std;
void prevnext (int x, int& prev, int& next)
{
    prev = x-1;
    next = x+1;
}

int _tmain(int argc, _TCHAR* argv[])
{
    int x=100, y, z;
    prevnext (x, y, z);
    cout << "Previous=" << y << ", Next=" << z;

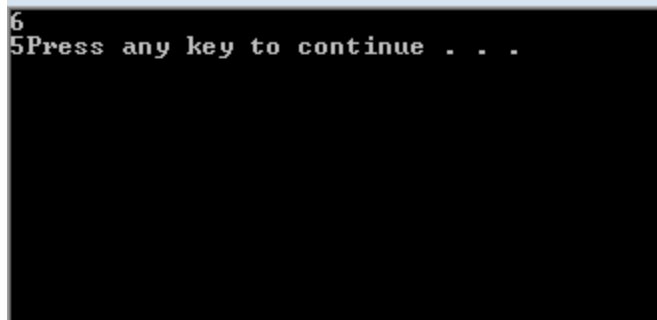
    system("pause");
    return 0;
}
```

```
}
```

```
Previous=99, Next=101Press any key to continue .
```

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int divide (int a, int b=2)
{
    int r;
    r=a/b;
    return r;
}

int _tmain(int argc, _TCHAR* argv[])
{
    cout << divide (12);
    cout << endl;
    cout << divide (20,4);
    system("pause");
    return 0;
}
```



```
6
5Press any key to continue . . .
```

```

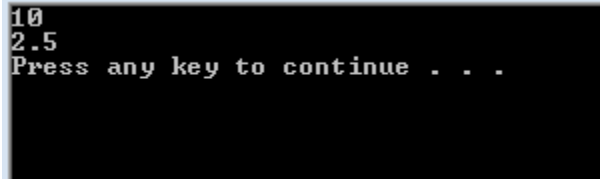
#include "stdafx.h"
#include<iostream>
using namespace std;
int operate (int a, int b)
{
    return a*b;
}

float operate (float a, float b)
{
    return a/b;
}

int _tmain(int argc, _TCHAR* argv[])
{
    int x=5,y=2;
    float n=5.0,m=2.0;
    cout << operate (x,y);
    cout << "\n";
    cout << operate (n,m);
    cout << "\n";

    system("pause");
    return 0;
}

```



```

10
2.5
Press any key to continue . . .

```

```

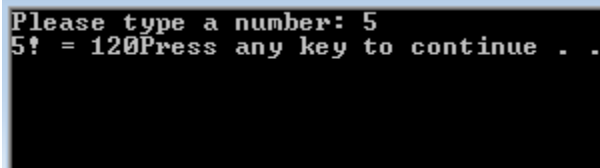
#include "stdafx.h"
#include<iostream>
using namespace std;

int fact (int a)
{
    if (a==0)
        return 1;
    else
        return a*fact(a-1);
}

int _tmain(int argc, _TCHAR* argv[])
{
    int n;
    cout << "Please type a number: ";
    cin >> n;
    cout << n << "! = " << fact (n);

    system("pause");
    return 0;
}

```



```

Please type a number: 5
5! = 120Press any key to continue . .

```

## Task#2

Create a program with a function which calculate the square of both the values entered by user. (Using call by reference)

```

// njhg.cpp : Defines the entry point for the console application.
//

```

```

#include "stdafx.h"
#include<iostream>
using namespace std;
void square(int& a,int& b);

int _tmain(int argc, _TCHAR* argv[])
{int x=5,y=10;
square( x, y);
cout<<"x="<<x<<endl<<"y="<<y<<endl;
system("pause");
    return 0;
}
void square(int& a,int& b)
{
    a=a*a;
    b=b*b;
}

```



```
x=25
y=100
Press any key to continue . . .
```

## Task #3

Write a program with a function `volume( )` to calculate the volume of a cube. Use Function

Overloading concept .Call this function with zero, one, two and three arguments and display the

volume returned in the `main( )`. Use length of side =1 for definition with no arguments.

`v= ,s = length of side`

```
// njhg.cpp : Defines the entry point for the console application.
//
```

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int volume();
int volume(int a);
int volume(int a,int b);
int volume(int a,int b,int c);
```

```
int _tmain(int argc, _TCHAR* argv[])
{int x=1,y=3,z=4,s;
cout<<"volume of cube with no argument"<<endl;
s=volume();
cout<<"volume with no argument"<<endl<<s<<endl;
cout<<"volume of cube with one argument"<<endl;
s= volume(x);
cout<<"volume with one argument"<<endl<<s<<endl;
cout<<"volume of cube with two argument"<<endl;
s=volume(x,y);
cout<<"volume with two argument"<<endl<<s<<endl;
cout<<"volume of cube with three argument"<<endl;
s=volume(x,y,z);
cout<<"volume with three argument"<<endl<<s<<endl;
```

```
system("pause");
return 0;
```

```
}
int volume()
{int s,y=4;
s=y*y*y;
return s;
}
```

```

int volume(int a)

{int s;
s=a*a*a*a;
return s;
}
int volume(int a,int b)

{int s;
s=a*a*b*a;
return s;
}
int volume(int a,int b,int c)

{int s;
s=a*a*b*c;
return s;
}

```

```

volume of cube wth no argument
volume with no argument
64
volume of cube wth one argument
volume with one argument
1
volume of cube wth two argument
volume with two argument
3
volume of cube wth three argument
volume with three argument
12
Press any key to continue . . .

```

## Task#4

**Perform Task # 03 by using Default value concept call the function with 0,1, 2 and 3 Arguments**

```

#include "stdafx.h"
#include<iostream>
using namespace std;
int vol(int s=5);// default function parameter
int _tmain(int argc, _TCHAR* argv[])
{ int s;
cout<<"volume of a cube"<<endl;
cout<<"Enter length of sides=";
cin>>s;// if user not enter a value function will use default parameter
cout<<"volume of cube="<<vol(s);
system("pause");
}

```

```
        return 0;
    }
    int vol(int s)
    { int c=s*s*s;
      return c;
    }
```

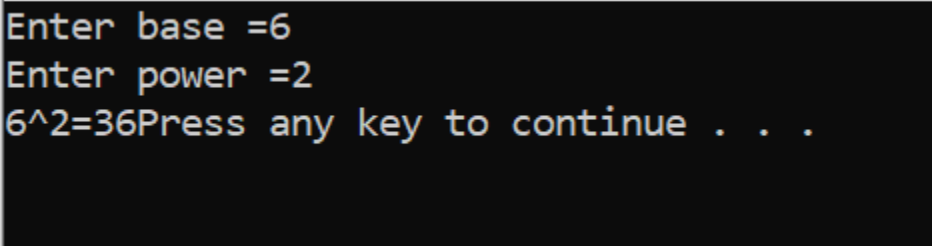
volume of a cube

Enter length of sides=1

volume of cube=1Press any key to continue .

# Task 5

```
int calculatepower(int base,int power);
int main()
{
    int base,power,result;
    cout<<"Enter base =";
    cin>>base;
    cout<<"Enter power =";
    cin>>power;
    result=calculatepower(base,power);
    cout<<base<<"^"<<power<<"="<<result;
    system ("pause");
    return 0;
}
int calculatepower(int base,int power)
{
    if(power==0)
        return 1;
    else
        return base*calculatepower(base,power-1);
}
```

A screenshot of a terminal window with a black background and light blue/green text. It shows the execution of the program: the user enters '6' for the base and '2' for the power, and the program outputs '6^2=36' followed by a pause message.

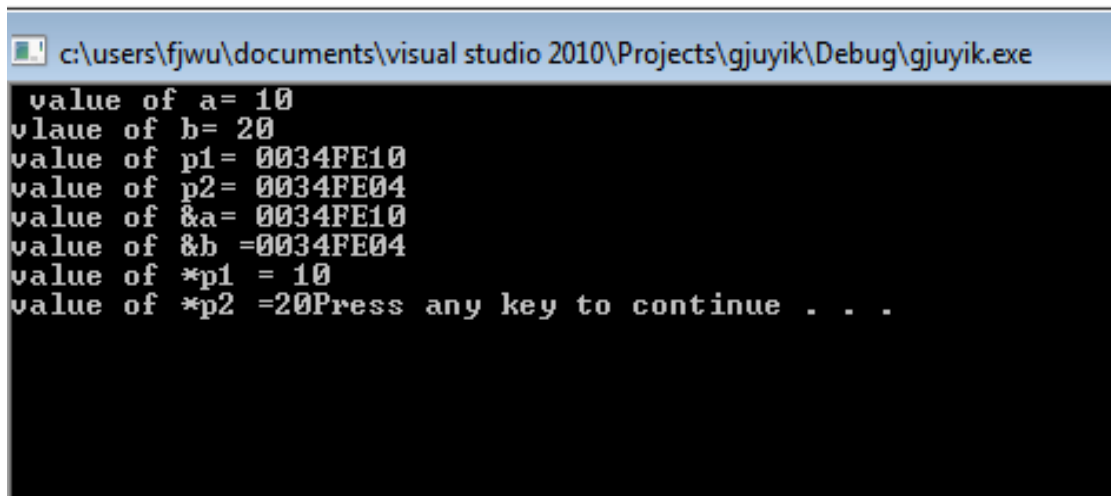
```
Enter base =6
Enter power =2
6^2=36Press any key to continue . . .
```

# Lab#11

## TASK #01

```
// gjuyik.cpp : Defines the entry point for the console application.
//
#include "stdafx.h"
#include< iostream >
using namespace std;
int main()
{
    int *p1,*p2; int a=10,b=20; p1=&a; p2=&b;
    cout<<" value of a= "<< a;
    cout<<" \nvlaue of b= "<< b;
    cout<<" \nvalue of p1= "<< p1;
    cout<<" \nvalue of p2= "<< p2;
    cout<<" \nvalue of &a= "<< &a;
    cout<<" \nvalue of &b ="<< &b;
    cout<<" \nvalue of *p1 = " <<*p1;
    cout<<" \nvalue of *p2 ="<<*p2 ;
    system("pause");
}
```

OUTPUT:



```
c:\users\fjwu\documents\visual studio 2010\Projects\gjuyik\Debug\gjuyik.exe
value of a= 10
vlaue of b= 20
value of p1= 0034FE10
value of p2= 0034FE04
value of &a= 0034FE10
value of &b =0034FE04
value of *p1 = 10
value of *p2 =20Press any key to continue . . .
```

```
// gjuyik.cpp : Defines the entry point for the console application.
//
#include "stdafx.h"
#include< iostream >
using namespace std;
int main()
{
    int a=5,b=10,c,*p1,*p2,*s;
    p1=&a; p2=&b; s=&c;
    *s=*p1+*p2;
    cout<<"addition of values at adress =" <<*s;
    system("pause") ;
    return 0;
}
```

c:\users\fjwu\documents\visual studio 2010\Projects\gjuyik\Debug\gjuyik.exe

addition of values at adress =15Press any key to continue . . .

```
// gjuyik.cpp : Defines the entry point for the console application.
//
#include "stdafx.h"
#include <iostream>
using namespace std;
int main()
{   int i=3,*j,**k;   j=&i;   k=&j;
    cout<<"\n Address of i = "<< &i;
    cout<<"\n Address of i = "<< j;
    cout<<"\n Address of i = "<< *k;
    cout<<"\n Address of j = "<< &j;
    cout<<"\n Address of j = "<< k;
    cout<<"\n Address of k = "<< &k;
    cout<<"\n Value of j = "<< j;
    cout<<"\n Value of k = "<< k;
    cout<<"\n Value of i = "<< i;
    cout<<"\n Value of i = "<<*( &i);
    cout<<"\n Value of i = "<< *j;
    cout<<"\n Value of i = "<< **k;
    system("pause") ;
    return 0;
}
```

c:\users\fjwu\documents\visual studio 2010\Projects\gjuyik\Debug\gjuyik.exe

```
Address of i = 001FF774
Address of i = 001FF774
Address of i = 001FF774
Address of j = 001FF768
Address of j = 001FF768
Address of k = 001FF75C
Value of j = 001FF774
Value of k = 001FF768
Value of i = 3
Value of i = 3
Value of i = 3
Value of i = 3Press any key to continue . . .
```

# Task#2:

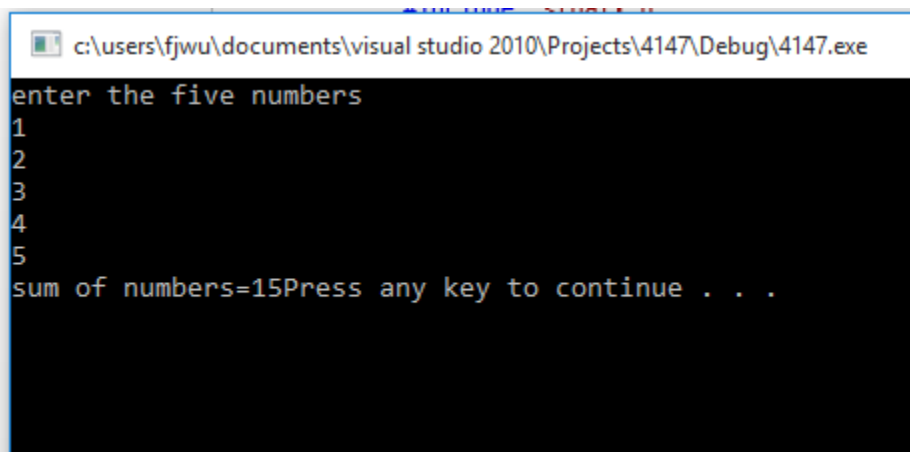
Create a C++ program to find the sum of 5 numbers using pointers

## Code:

```
// 4147.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int a,b,c,d,e,*ptr1,*ptr2,*ptr3,*ptr4,*ptr5,*s,k;
cout<<"enter the five numbers"<<endl;
cin>>a;
cin>>b;
cin>>c;
cin>>d;
cin>>e;
ptr1=&a;
ptr2=&b;
ptr3=&c;
ptr4=&d;
ptr5=&e;
s=&c;
*s=*ptr1+*ptr2+*ptr3+*ptr4+*ptr5;
cout<<"sum of numbers="<<*s;
system("pause");
return 0;
}
```



```
c:\users\fjwu\documents\visual studio 2010\Projects\4147\Debug\4147.exe
enter the five numbers
1
2
3
4
5
sum of numbers=15Press any key to continue . . .
```

## Task#3:

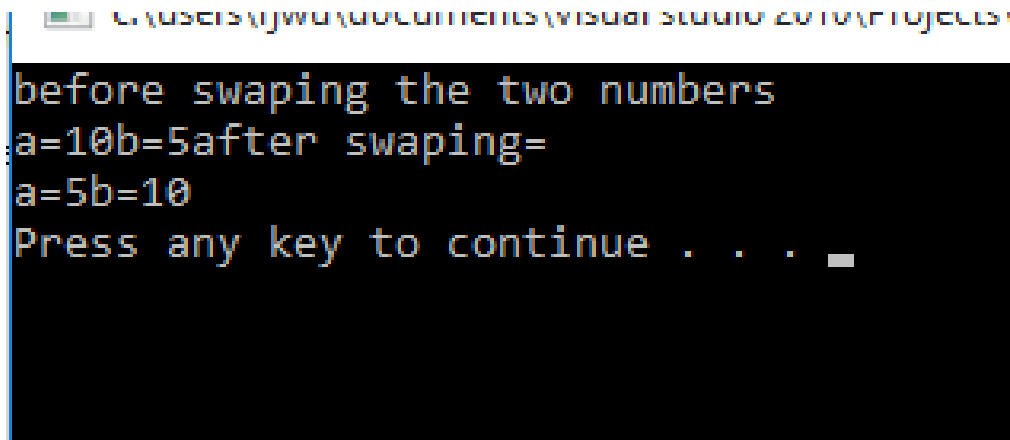
Create a C++ program to swap the values of two variables using pointer notation.

## Code:

```
// 4147.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int a=10,b=5,c=0,*ptr1,*ptr2,*ptr3;
cout<<"before swaping the two numbers"<<endl<<"a="<<a<<"b="<<b;
ptr1=&a;
ptr2 =&b;
ptr3=&c;
*ptr3=*ptr1;
*ptr1=*ptr2;
*ptr2=*ptr3;
cout<<"after swaping="<<endl<<"a="<<a<<"b="<<b<<endl;
system("pause");
return 0;
}
```



```
C:\users\jwu\documents\visual studio 2010\Projects\
before swaping the two numbers
a=10b=5after swaping=
a=5b=10
Press any key to continue . . .
```

## Task#4:

Using the concept of pointer to pointer create a program which add two float values

```
*( *p1)+*( *p2)
```

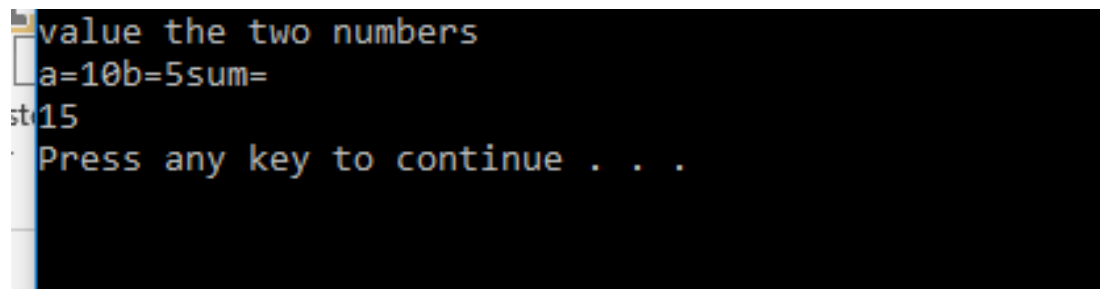
## Code:



```
// 4147.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{float a=10.0,b=5.0,*ptr1,*ptr2,**ptrs1,**ptrs2,*ptrs,s;
cout<<"value the two numbers"<<endl<<"a="<<a<<"b="<<b;
ptr1=&a;
ptr2 =&b;
ptrs =&s;
ptrs1=&ptr1;
ptrs2=&ptr2;
*ptrs=**ptrs1+**ptrs2;
cout<<"sum="<<endl<<*ptrs<<endl;
system("pause");
    return 0;
}
```



## Task#4:

COMPILE a C++ program to find the largest number from the array of 7 numbers using pointer

## Code:

```
// 4147.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

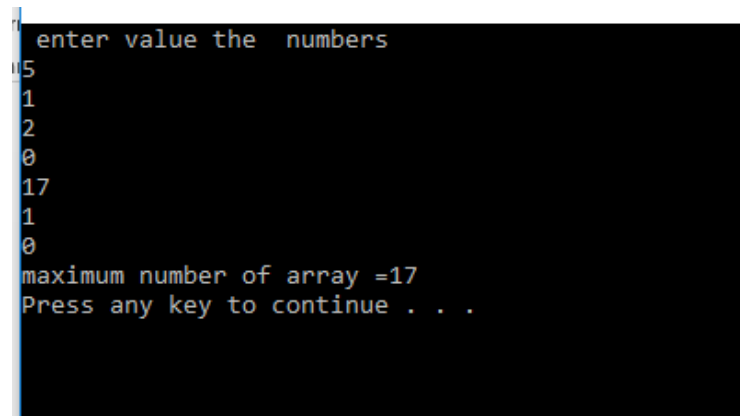
int _tmain(int argc, _TCHAR* argv[])
{int arr[7],max,*ptr;
ptr=&max;
cout<<" enter value the numbers"<<endl;
for(int i=0;i<7;i++)
{cin>>arr[i];
}max=arr[0];
for(int i=1;i<7;i++)
{if(max<arr[i])
max=arr[i];
}
```

```

}
cout<<"maximum number of array ="<<*ptr<<endl;

system("pause");
return 0;
}

```



```

1  enter value the numbers
5
1
2
0
17
1
0
maximum number of array =17
Press any key to continue . . .

```

## Task#6;

Create a program which print the table of 2 upto 12 using pointers.

## Code:

```

// 4147.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
using namespace std;

int _tmain(int argc, _TCHAR* argv[])
{int tab=2,i,res,*ptrtab,*ptri,*ptrres;
ptrtab=&tab;
ptri=&i;
ptrres=&res;
for(i=1;i<=12;i++)
{res=tab*i;
cout<<*ptrtab<<"*"<<*ptri<<"="<<*ptrres<<endl;
}

system("pause");
return 0;
}

```

```
2*1=2
2*2=4
2*3=6
2*4=8
2*5=10
2*6=12
2*7=14
2*8=16
2*9=18
2*10=20
2*11=22
2*12=24
Press any key to continue . . . _
```

LAB#12

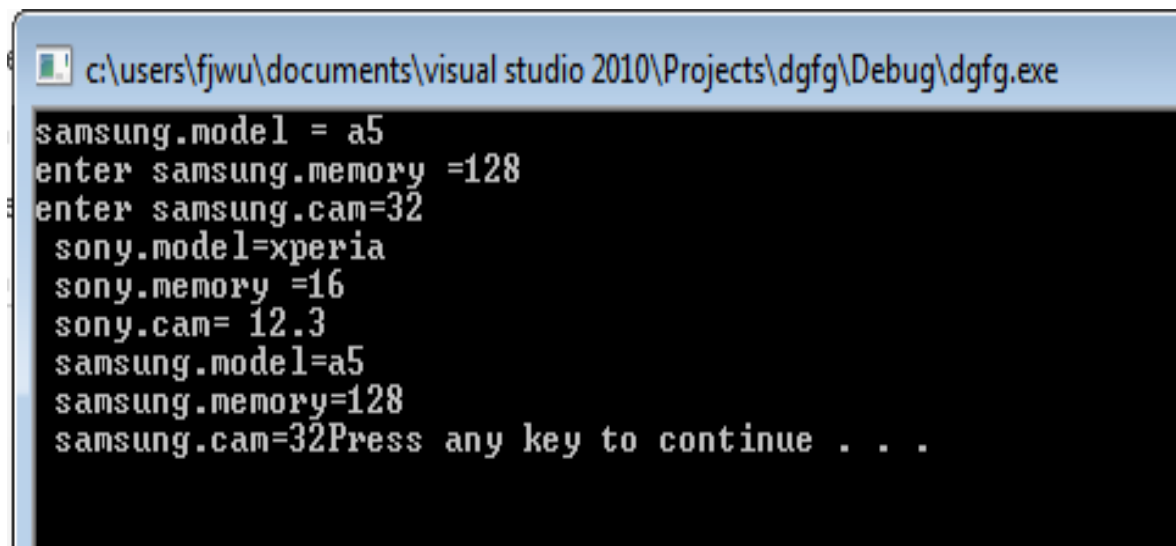
## TASK#01

```
// gjuyik.cpp : Defines the entry point for the console application.
//
#include "stdafx.h"
#include< iostream >
using namespace std;
struct product { int price; float weight;
} apple,lemon;
int _tmain(int argc, _TCHAR* argv[])
{ apple.price=80;
apple.weight=1.8;
cout<<"Enter lemon.price = ";
cin>>lemon.price;
cout<<"Enter lemon.weight =";
cin>>lemon.weight;
cout<<"Apple.price = " <<apple.price<<endl;
cout<<"Apple.weight = " <<apple.weight<<endl;
cout<<"Lemon.price = "<< lemon.price<<endl;
cout<<"Lemo.weight = "<< lemon.weight<<endl;
system("pause") ;
return 0;
}
```

```
c:\users\fjwu\documents\visual studio 2010\Projects\gjuyik\Debug\gjuyik.exe
Enter lemon.price = 750
Enter lemon.weight =5.5
Apple.price = 80
Apple.weight = 1.8
Lemon.price = 750
Lemo.weight = 5.5
Press any key to continue . . .
```

```
// dgfg.cpp : Defines the entry point for the console application.
//
```

```
#include "stdafx.h"
#include< iostream >
using namespace std;
struct mobile
{ char model[20];
  int memory;   float cam;
} sony={"xperia",16,12.3},samsung;
int _tmain(int argc, _TCHAR* argv[])
{ cout<<"samsung.model = ";
  cin>>samsung.model;
  cout<<"enter samsung.memory =";
  cin>>samsung.memory;
  cout<<"enter samsung.cam=";
  cin>>samsung.cam;
  cout<<" sony.model="<<sony.model<<"\n sony.memory ="<<sony.memory<<"\n sony.cam="
  <<sony.cam ;
  cout<<"\n samsung.model=" <<samsung.model<<"\n samsung.memory=" <<samsung.memory<<"\n
  samsung.cam="<< samsung.cam;
  system("pause") ;
  return 0;
}
```



```
c:\users\fjwu\documents\visual studio 2010\Projects\dgfg\Debug\dgfg.exe
samsung.model = a5
enter samsung.memory =128
enter samsung.cam=32
sony.model=xperia
sony.memory =16
sony.cam= 12.3
samsung.model=a5
samsung.memory=128
samsung.cam=32Press any key to continue . . .
```

```
// dgfg.cpp : Defines the entry point for the console application.
//
```

```
#include "stdafx.h"
#include <iostream>
using namespace std;
struct Movies
{   char title[50];   int year;
} mine={"inception",2010}; void printmovie (Movies movie);
int _tmain(int argc, _TCHAR* argv[])
{ Movies yours;
  cout << "Enter title: ";
  cin >> yours.title;
  cout << "Enter year: ";
  cin >> yours.year;
  cout << "My favorite movie is:\n ";
  printmovie (mine);
  cout << "And yours is:\n ";   printmovie (yours);
  system("pause") ;
  return 0;
}
void printmovie (Movies movie)
{
  cout << movie.title <<endl;   cout <<   movie.year << endl;
}
```

```
c:\users\fjwu\documents\visual studio 2010\Projects\dgfg\Debug\dgfg.exe
Enter title: raaz
Enter year: 2009
My favorite movie is:
    inception
2010
And yours is:
    raaz
2009
Press any key to continue . . . _
```

## TASK#02

```
// dgfg.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include<iostream>
#include<string>
using namespace std;
struct student
{
    string name;
    int age;
    string address;
    int reg_no;
    string university;
    float CGPA;
}S1,S2,S3,S4,S5;

int _tmain(int argc, _TCHAR* argv[])
{
    S1.age,S2.age,S3.age,S4.age,S5.age;
    cout<<"enter th age of students"<<endl;
    cin>>S1.age>>S2.age>>S3.age>>S4.age>>S5.age;
    S1.name,S2.name,S3.name,S4.name,S5.name;
    cout<<"enter the name of student"<<endl;
    cin>>S1.name>>S2.name>>S3.name>>S4.name>>S5.name;
    S1.address,S2.address,S3.address,S4.address,S5.address;
    cout<<"enter the address of student"<<endl;
    cin>>S1.address>>S2.address>>S3.address>>S4.address>>S5.address;
    S1.reg_no,S2.reg_no,S3.reg_no,S4.reg_no,S5.reg_no;
    cout<<"enter the reg_no of student"<<endl;
    cin>>S1.reg_no>>S2.reg_no>>S3.reg_no>>S4.reg_no>>S5.reg_no;
    S1.university,S2.university,S3.university,S4.university,S5.university;
    cout<<"enter the university of student"<<endl;

    cin>>S1.university>>S2.university>>S3.university>>S4.university>>S5.university;
    S1.CGPA,S2.CGPA,S3.CGPA,S4.CGPA,S5.CGPA;
    cout<<"enter the CGPA of student"<<endl;
```

```

        cin>>S1.CGPA>>S2.CGPA>>S3.CGPA>>S4.CGPA>>S5.CGPA;
        cout<<"AGE OF STUDENT"<<S1.age<<S2.age<<S3.age<<S4.age<<S5.age;
        cout<<"namme of students"<<S1.name<<S2.name<<S3.name<<S4.name<<S5.name;
        cout<<"addres of student"<<
        S1.address<<S2.address<<S3.address<<S4.address<<S5.address;
        cout<<"CGPA OF STUDENT"<<S1.CGPA<<S2.CGPA<<S3.CGPA<<S4.CGPA<<S5.CGPA;
        cout<<"REG_ NO OF
STUDENT"<<S1.reg_no<<S2.reg_no<<S3.reg_no<<S4.reg_no<<S5.reg_no;
        cout<<"university name of
student"<<S1.university<<S2.university<<S3.university<<S4.university<<S5.university;

system("pause");
return 0;
}

```

```

c:\users\fjwu\documents\visual studio 2010\Projects\dgfg\Debug\dgfg.exe
enter th age of students
16
15
18
11
15
enter the name of student
Hafsah
sana
rabia
ali
asif
enter the address of student
peshawar road
chur chok
chakra
enter the reg_no of student
2335
4656
4335
76867
786
enter the university of student
numl
air
fjwu
fast
nust
enter the CGPA of student
3.9
4
2.2
3.5
2

```

## TASK#03

```

#include <iostream>

#include <string> using
namespace std;

struct result
{
    string name;
    int reg_no;    int

```

```

marks[4];  int
total_marks;
};

int main()
{
    result student1 = {"Sawaira", 12345, {85, 90, 92, 88}, 0};  result
student2 = {"sana", 67890, {80, 87, 91, 89}, 0};  for (int i = 0; i < 4;
i++)  {

        student1.total_marks += student1.marks[i];

    }

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

        {

            student2.total_marks += student2.marks[i];

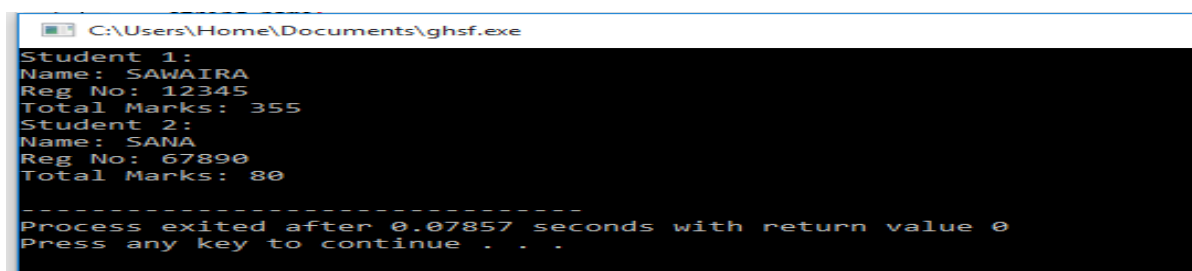
cout << "Student 1:" << endl;  cout << "Name: " <<
student1.name << endl;  cout << "Reg No: " <<
student1.reg_no << endl;  cout << "Total Marks: " <<
student1.total_marks << endl;


        cout << "Student 2:" << endl;  cout << "Name: " <<
student2.name << endl;  cout << "Reg No: " <<
student2.reg_no << endl;  cout << "Total Marks: " <<
student2.total_marks << endl;

        return 0;

    }
}

```



```

C:\Users\Home\Documents\ghsf.exe
Student 1:
Name: SAWAIRA
Reg No: 12345
Total Marks: 355
Student 2:
Name: SANA
Reg No: 67890
Total Marks: 80

-----
Process exited after 0.07857 seconds with return value 0
Press any key to continue . . .

```



# TASK#04

```
#include <iostream> using
namespace std;
struct flight
{
    int Flight_no;
    int Hours;
    int Minutes;
    int Seconds;
};

void Display_time(const flight& f)
{
    cout << "Arrival time for flight " << f.Flight_no << ": ";    cout << f.Hours << " hours, " << f.Minutes <<
    " minutes, " << f.Seconds << " seconds" << endl;
}

int main()
{
    flight f1,
    f2;


    cout << "Enter arrival time for flight 1 (hours minutes seconds): ";
    cin >> f1.Hours >> f1.Minutes >> f1.Seconds;    f1.Flight_no = 1;

    cout << "Enter arrival time for flight 2 (hours minutes seconds): ";
    cin >> f2.Hours >> f2.Minutes >> f2.Seconds;    f2.Flight_no = 2;
```

```
Display_time(f1); Display_time(f2);
```

```
return 0;
```

```
}
```

 C:\Users\Home\Documents\ghsf.exe

Enter arrival time for flight 1 (hours minutes seconds): 12 30 12

Enter arrival time for flight 2 (hours minutes seconds): 9 15 9

Arrival time for flight 1: 12 hours, 30 minutes, 12 seconds

Arrival time for flight 2: 9 hours, 15 minutes, 9 seconds

-----  
Process exited after 30.78 seconds with return value 0

Press any key to continue . . .