

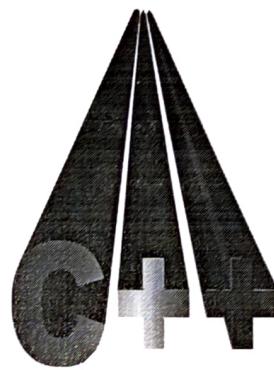
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/\*(Q.1) Write a program to check whether the entered year is a leap year or not leap year\*/

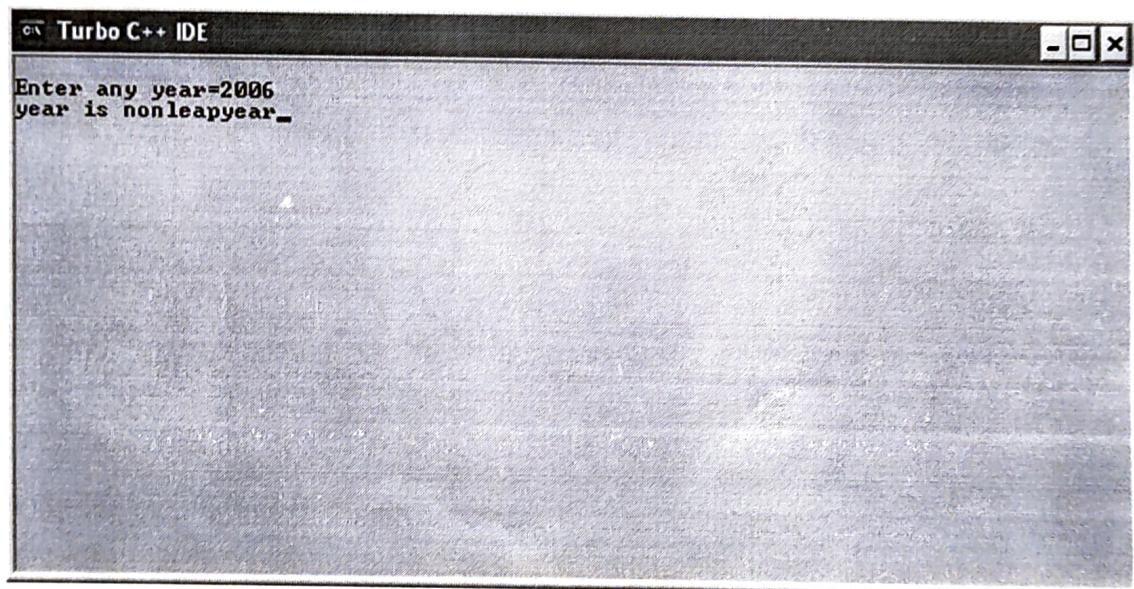
```
#include<iostream.h>
#include<conio.h>
void main()
{
    int year;
    cout<<"\nEnter any year=";
    cin>>year;
    if((year%4==0 && year%100!=0) || (year%400==0))
        goto leapyear;
    else
        goto nonleapyear;
    leapyear:
    cout<<"year is leapyear";
    return;
```



nonleapyear:

```
cout<<"year is nonleapyear";  
getch();  
}
```

## Output



The screenshot shows a window titled "Turbo C++ IDE". Inside the window, the text "Enter any year=2006" is displayed, followed by "year is nonleapyear\_". The window has standard operating system controls (minimize, maximize, close) at the top right.



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**/\* (Q.2) To print the factorial of the number \*/**

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

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

```
class factorial
```

```
{
```

```
private:
```

```
int f,a;
```

```
public:
```

```
void input();
```

```
void display();
```

```
};
```

```
void factorial :: input()
```

```
{
```

```
cout<<"\n\n\nEnter number: ";
```

```
cin>>f;
```



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---

```
}  
}  
void factorial :: display()  
{  
    if(f==1)  
    {  
        cout<<"\n\nThe factorial of entered no. is 1.";  
    }  
    else  
    {  
        a=1;  
        for(int i=f;i>=1;i--)  
            a=a*i;  
        cout<<"\n\nFactorial : "<<a;  
    }  
}  
void main()  
{
```



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---

```
int j;  
clrscr();  
cout<<"\nEnter the number of times : ";  
cin>>j;  
factorial n;  
for(int i=1;i<=j;i++)  
{  
    n.input();  
    n.display();  
}  
getch();  
}
```



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## **Output**

A screenshot of a computer screen displaying the Turbo C++ IDE interface. The window title is "Turbo C++ IDE". Inside the window, there is a text area showing the following interaction:

```
Enter the number of times : 3  
  
Enter number: 5  
Factorial : 120  
  
Enter number: 7  
Factorial : 5040  
  
Enter number: 3  
Factorial : 6
```

The text is in a black font on a white background, and the window has standard operating system controls at the top right.



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/\*\*\*(Q.3) A program to find simple interest and total amount using classes and object with data hiding \*\*/

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

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

```
class Interest
```

```
{
```

```
private:
```

```
    float p_amount;
```

```
    float rate;
```

```
    float period;
```

```
    float interest;
```

```
    float t_amount;
```

```
public :
```

```
    void input()
```

```
{
```

```
    cout<<"\nEnter Principle Amount:";
```

```
    cin>>p_amount;
```



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---

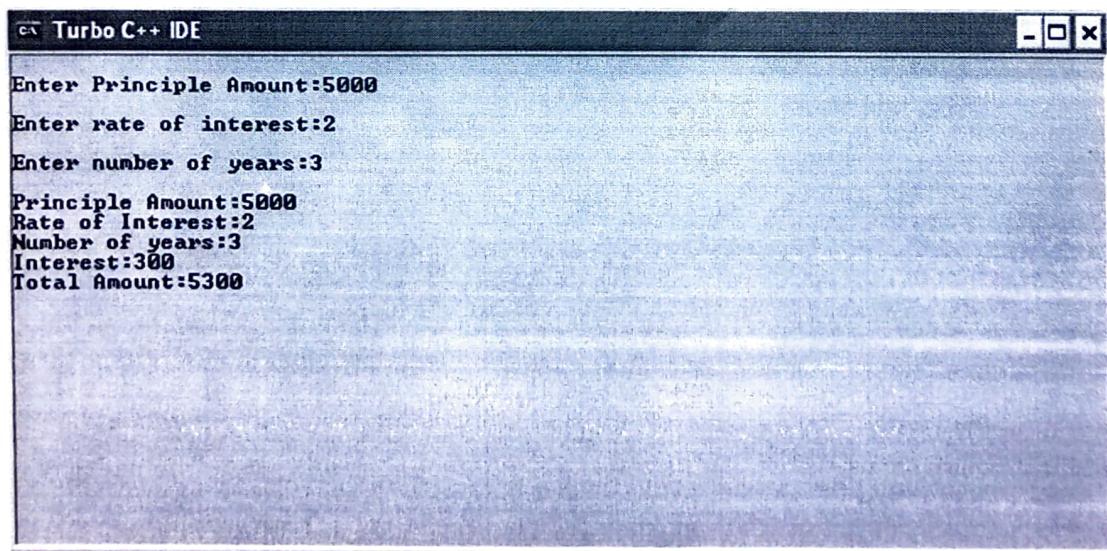
```
cout<<"\nEnter rate of interest:";  
  
cin>>rate;  
  
cout<<"\nEnter number of years:";  
  
cin>>period;  
  
interest=(p_amount*period*rate)/100;  
  
t_amount=interest+p_amount;  
}  
  
void show()  
{  
  
cout<<"\nPrinciple Amount:<<p_amount;  
  
cout<<"\nRate of Interest:<<rate;  
  
cout<<"\nNumber of years:<<period;  
  
cout<<"\nInterest:<<interest;  
  
cout<<"\nTotal Amount:<<t_amount;  
}  
  
};
```



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```
void main()
{
    clrscr();
    Interest r;
    r.input();
    r.show();
}
```

## Output



The screenshot shows the Turbo C++ IDE interface with the title bar "Turbo C++ IDE". The code window displays the C++ program above. The output window shows the following interaction:

```
Enter Principle Amount:5000
Enter rate of interest:2
Enter number of years:3
Principle Amount:5000
Rate of Interest:2
Number of years:3
Interest:300
Total Amount:5300
```



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/\*\*(Q.4) Write a program to generate Fibonacci series

\*\*\*\*\*

0 1 1 2 3 5 8 13 21 34 55

\*\*\*\*\*\*/

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

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

```
void main()
```

```
{
```

```
int a=0,b=1,c=0,i=1;
```

```
clrscr();
```

```
cout<<a<<" , " <<b;
```

```
while(c <=50)
```

```
{
```

```
c=a+b;
```

```
cout<<c<<" ";
```

```
a=b;
```



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```
b=c;  
}  
getch();  
}
```

## Output

A screenshot of the Turbo C++ IDE window. The title bar says "Turbo C++ IDE". The code area contains the following C code:

```
0 1 1 2 3 5 8 13 21 34 55 _
```

The output window below shows the sequence of numbers 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, followed by a blank line, indicating the execution of the program which prints the Fibonacci series up to the 10th term.



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/\*\*(Q.5) Write a program to create objects of Point class and display co-ordinates using constructor overloading \*\*\*\*\*/

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

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

```
class Point
```

```
{
```

```
private:
```

```
    int x_coord;
```

```
    int y_coord;
```

```
public:
```

```
    static int c;
```

```
    Point();
```

```
    Point(int x,int y_coord);
```

```
    ~Point();
```

```
    Point(Point &p);
```



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---

```
void showPoint();
```

```
};
```

```
Point::Point() //default constructor
```

```
{
```

```
    x_coord=0;
```

```
    y_coord=0;
```

```
    c=c+1;
```

```
    cout<<"\nObject created :"<<c;
```

```
}
```

```
Point::Point(int x,int y_coord) // Parameterized constructor
```

```
{
```

```
    x_coord=x;
```

```
    this->y_coord=y_coord;
```

```
    c=c+1;
```

```
    cout<<"\nObject created :"<<c;
```

```
}
```



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---

Point::Point(Point &p)

{

x\_coord=p.x\_coord;

y\_coord=p.y\_coord;

c=c+1;

cout<<"\nObject created :"<<c;

}

void Point::showPoint()

{

cout<<"\nPoint("<<x\_coord<<","<<y\_coord<<")";

}

Point::~Point()

{

cout<<"\nObject destroyed:"<<c;

c=c-1;

}

int Point::c=0;



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---

```
void main()
```

```
{
```

```
clrscr();
```

```
Point p;
```

```
p.showPoint();
```

```
Point p1(2,7);
```

```
p1.showPoint();
```

```
{Point p2(p1);
```

```
p2.showPoint();
```

```
{
```

```
Point p3(9,-3);
```

```
p3.showPoint();
```

```
}
```

```
Point p4(-3,7);
```

```
p4.showPoint();
```



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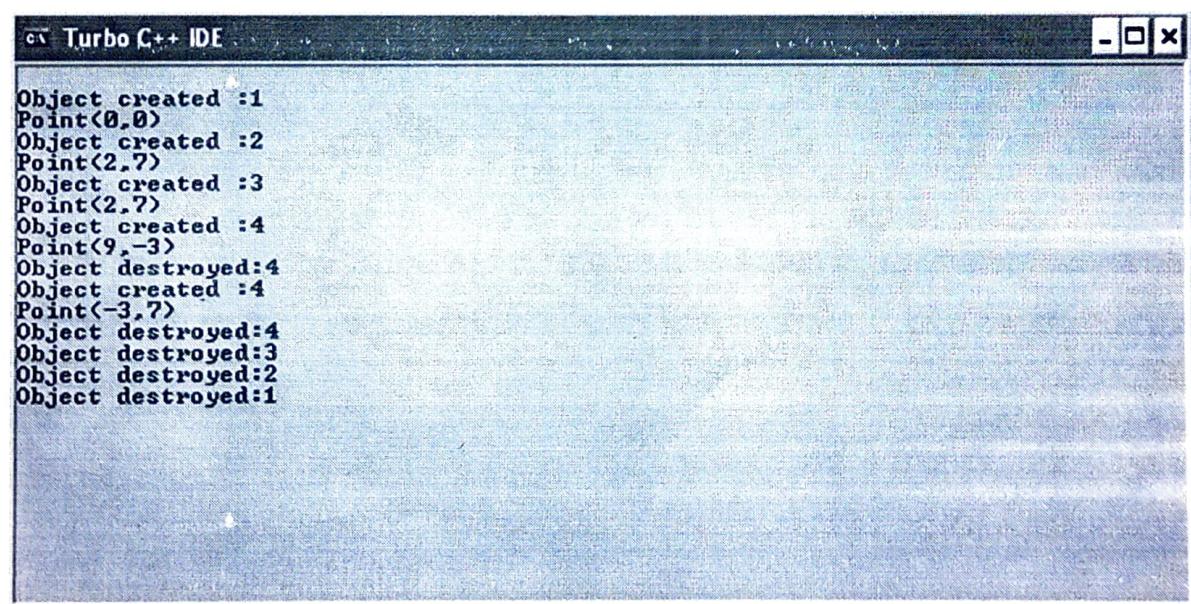
---

```
}
```

```
getch();
```

```
}
```

## Output



The screenshot shows the Turbo C++ IDE interface with the title bar "Turbo C++ IDE". The main window displays the following text output:

```
Object created :1
Point<0,0>
Object created :2
Point<2,7>
Object created :3
Point<2,7>
Object created :4
Point<9,-3>
Object destroyed:4
Object created :4
Point<-3,7>
Object destroyed:4
Object destroyed:3
Object destroyed:2
Object destroyed:1
```



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---

/\*\*(Q.6)A program to overload a function swap()

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

void swap(char,char);
void swap(int,int);
void swap(float,float);
void swap(double,double);
void swap(char ch1,char ch2){
    char t;
    t=ch1;
    ch1=ch2;
    ch2=t;
    cout<<"\nAfter swapping : ch1= "<<ch1<<"  ch2=
    "<<ch2<<endl<<endl;
}

void swap(int a,int b){
```



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```
int t1;  
  
t1=a;  
  
a=b;  
  
b=t1;  
  
cout<<"\nAfter swapping : x= "<<a<<"  y= "<<b<<endl<<endl;  
  
}  
  
void swap(float c, float d){  
  
float t2;  
  
t2=c;  
  
c=d;  
  
d=t2;  
  
cout<<"\nAfter swapping : a= "<<c<<"  b= "<<d<<endl<<endl;  
  
}  
  
void swap(double e, double f){  
  
double t3;  
  
t3=e;
```



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```
e=f;  
f=t3;  
  
cout<<"\nAfter swapping : m= "<<e<<"  n= "<<f<<endl<<endl;  
}  
  
void main()  
{  
clrscr();  
char ch1,ch2;  
  
cout<<"\nEnter the value for(ch1,ch2) in character:";  
cin>>ch1>>ch2;  
  
cout<<"\nBefore swapping ch1,ch2:<<ch1<<"  "<<ch2<<endl;  
swap(ch1,ch2);  
  
int x,y;  
  
cout<<"\n\nEnter the value for(x,y) in integer: ";  
cin>>x>>y;  
  
cout<<"\nBefore swapping x,y: "<<x<<"  "<<y<<endl;  
swap(x,y);
```



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---

```
float a,b;  
  
cout<<"\n\nEnter the value for(a,b) in float: ";  
  
cin>>a>>b;  
  
cout<<"\nBefore swapping a,b: "<<a<<"  "<<b<<endl;  
  
swap(a,b);  
  
double m,n;  
  
cout<<"\n\nEnter the value for(m,n) in double : ";  
  
cin>>m>>n;  
  
cout<<"\nBefore swapping m,n: "<<m<<"  "<<n<<endl;  
  
swap(m,n);  
  
getch();  
  
}
```



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## **Output**

```
 Turbo C++ IDE - □ ×

Enter the value for<x,y> in integer: 100 345
Before swapping x,y: 100 345
After swapping : x= 345 y= 100

Enter the value for<a,b> in float: 234.45 567.32
Before swapping a,b: 234.449997 567.320007
After swapping : a= 567.320007 b= 234.449997

Enter the value for<m,n> in double : 1234.678 8776.32244
Before swapping m,n: 1234.678 8776.32244
After swapping : m= 8776.32244 n= 1234.678
```



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---

/\*\*(Q.7) Write a program to access members of both base and derived classes using pointer object of both classes \*/

```
#include<iostream.h>

#include<conio.h>

class W

{

protected:

    int w;

public:

    W(int k) { w=k; }

    void show()

    {

        cout<<"\n\nIn base class W.';

        cout<<"\n\nW = "<<w;

    }

};
```



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---

class X:public W

{

protected:

int x;

public:

X(int j, int k):W(j)

{

x=k;

}

void show()

{

cout<<"\n\n\nIn class X.";

cout<<"\n\nw = "<<w;

cout<<"\n\nx = "<<x;

}

};

class Y:public X



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---

```
{  
protected:  
int y;  
public:  
void show()  
{  
cout<<"\n\nIn class Y, y = "<<y;  
}  
};  
void main()  
{  
clrscr();  
W *b;  
b=new W(20);  
b->show();  
delete b;  
b=new X(5,2);
```



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```
b->show();
```

```
delete b;
```

```
X x(3,4);
```

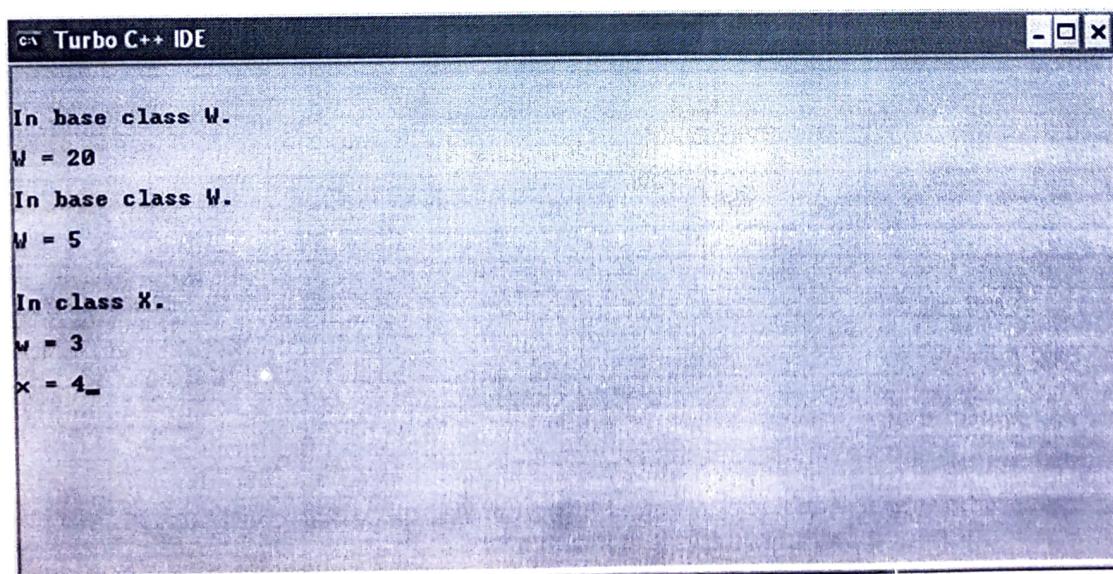
```
X *d=&x;
```

```
d->show();
```

```
getche();
```

```
}
```

## Output



The screenshot shows the Turbo C++ IDE interface with the title bar "Turbo C++ IDE". The code window displays the following output:

```
In base class W.  
W = 20  
In base class W.  
W = 5  
In class X.  
w = 3  
x = 4
```



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---

/\*\*(Q.8)Write a program to show the use of constructor  
and destructor in Multiple  
Inheritance\*\*\*\*\*\*/

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

class A
{
public:
    A()
    {
        cout<<"\nZero argument constructor of base class A.";
    }
    ~A()
    {
        cout<<"\n\nDestructor of class A.";
    }
}
```



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---

};

class B

{

public:

B()

{

cout<<"\n\nZero argument constructor of base class B.";

}

~B()

{

cout<<"\n\nDestructor of class B.";

}

};

class C:public A,public B

{

public:

C()



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---

```
{  
cout<<"\n\nZero argument constructor of derived class C.";  
}  
  
~C()  
{  
cout<<"\n\n\nDestructor of class C.";  
}  
};  
  
void main()  
{  
clrscr();  
C c;  
getche();  
}
```

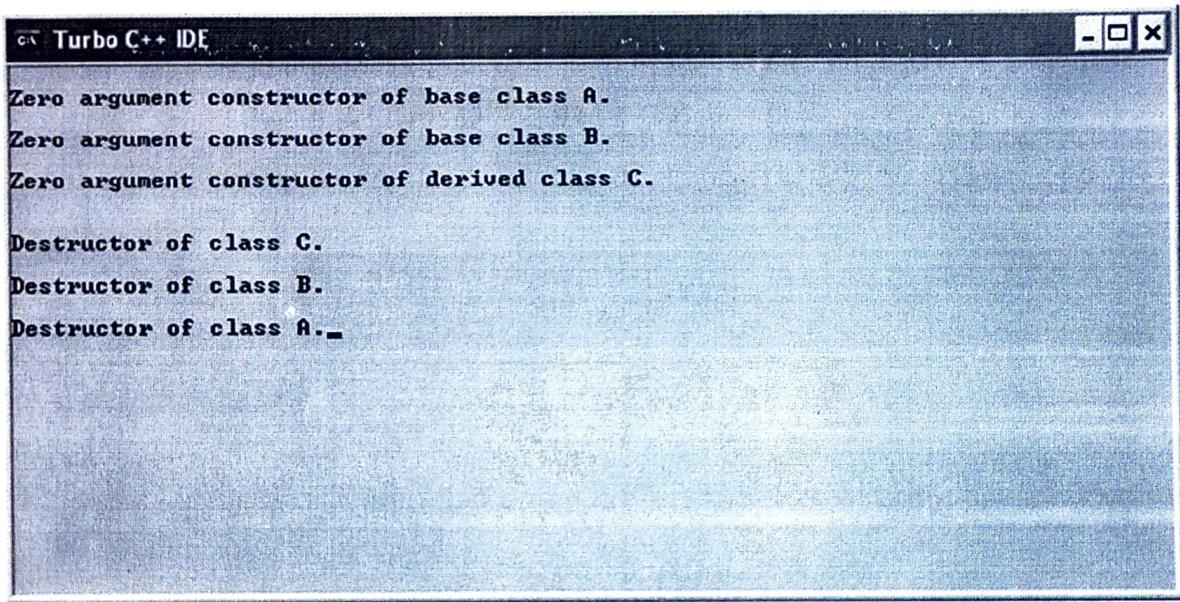
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## **Output**



A screenshot of the Turbo C++ IDE window. The title bar reads "Turbo C++ IDE". The main window displays the following text output:

```
Zero argument constructor of base class A.  
Zero argument constructor of base class B.  
Zero argument constructor of derived class C.  
  
Destructor of class C.  
Destructor of class B.  
Destructor of class A.-
```



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---

**/\*\*(Q.9) Write a program to show how pointer variable holds address of any data variable and display that.**

**\*\*\*\*\*\*/**

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

```
#include<constream.h>
```

```
void main()
```

```
{
```

```
clrscr();
```

```
int p=1000,*x,*y;
```

```
float d=2000.50;
```

```
char s='a';
```

```
void *pt;
```

```
x=&p;
```

```
cout<<"\nXcontains : "<<*x;
```

```
cout<<"\n\nAddress of X : "<<(unsigned)x;
```

```
delete x;
```

```
y=&p;
```



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---

```
cout<<"\n\n\nY contains : "<<*y;  
cout<<"\n\nAddress of Y : "<<(unsigned)y;  
delete y;  
  
pt=&p;  
  
cout<<"\n\n\npt contains : "<<*(int *)pt;  
cout<<"\n\nAddress of pt : "<<(unsigned)pt;  
delete pt;  
  
pt=&d;  
  
cout<<"\n\n\npt contains : "<<*((float *)pt);  
cout<<"\n\nAddress of pt : "<<(unsigned)pt;  
pt=&s;  
  
cout<<"\n\n\npt contains : "<<*(char*)pt;  
cout<<"\n\nAddress of pt : "<<(unsigned)pt;  
getche();  
}
```



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## Output

```
Turbo C++ IDE
Xcontains : 1000
Address of X : 65524

Y contains : 1000
Address of Y : 65524

pt contains : 18656
Address of pt : 65524

pt contains : 1976.5
Address of pt : 65518

pt contains : a
Address of pt : 65517 Null pointer assignment
```



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---

/\*\*(Q.10)Write a program to overload unary operator using friend function\*/

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

class Complex
{
    double real;
    double imag;
public:
    Complex()
    {
        real=imag=0.0;
    }
    void getdata();
    void outdata(char *msg);
    friend Complex operator-(Complex c1)
```



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---

```
{  
Complex c;  
c.real=-c1.real;  
c.imag=-c1.imag;  
return c;  
}  
};  
void Complex::getdata()  
{  
cout<<"\n\nEnter Real : ";  
cin>>real;  
cout<<"\nEnter Imag : ";  
cin>>imag;  
}  
void Complex::outdata(char *msg)  
{  
cout<<msg;
```



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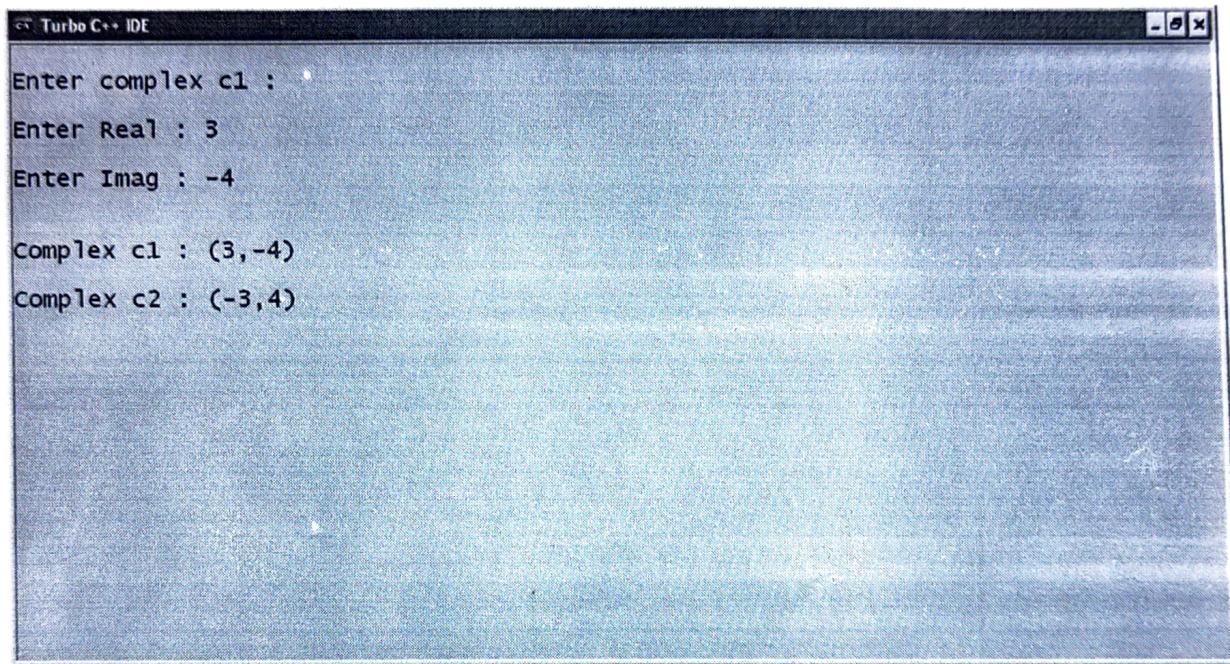
---

```
cout<<"(" << real;  
cout<<"," << imag << ")";  
}  
  
void main()  
{  
clrscr();  
Complex c1,c2;  
cout<<"\nEnter complex c1 : ";  
c1.getdata();  
c2=-c1;  
c1.outdata("\n\nComplex c1 : ");  
c2.outdata("\n\nComplex c2 : ");  
getche();  
}
```



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## **Output**



A screenshot of a Turbo C++ IDE window. The title bar reads "Turbo C++ IDE". The main window contains the following text:

```
Enter complex c1 :  
Enter Real : 3  
Enter Imag : -4  
Complex c1 : (3,-4)  
Complex c2 : (-3,4)
```



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/\*\*(Q.11)Write a C++ Program to print the largest of three given number using function

\*\*\*\*\*?\*\*\*\*\*

```
#include<iostream.h>

#include<conio.h>

int largest(int x,int y,int z); //Function Prototype

void main()

{

    clrscr();

    int a,b,c,large=0;

    cout<<"\nEnter any three numbers:";

    cin>>a>>b>>c;

    large=largest(a,b,c); // Function calling

    cout<<endl<<"Largest Number is :";

    cout<<large;

    getch();

}
```



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```
int largest(int x,int y,int z) //Start of largest function  
definition
```

```
{ int temp=0;
```

```
 if(x>y)
```

```
{
```

```
 if(x>z)
```

```
{
```

```
 temp=x;
```

```
}
```

```
else
```

```
{
```

```
 temp=y;
```

```
}
```

```
}
```

```
else
```

```
{
```

```
 if(y>z)
```

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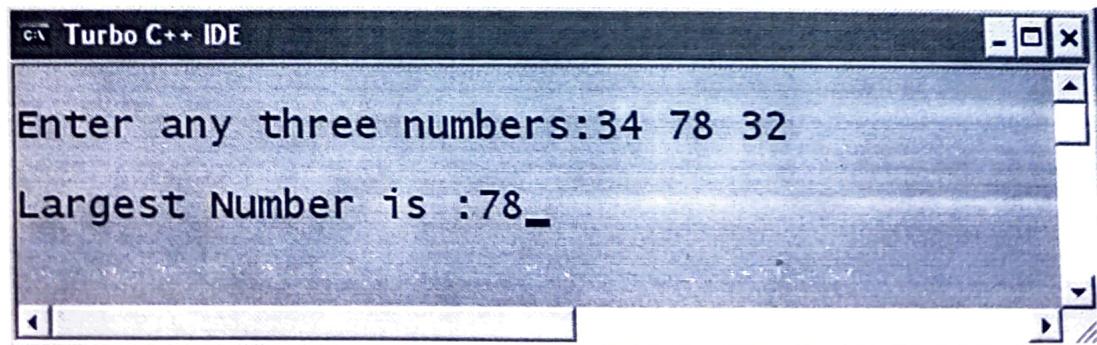


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```
{  
temp=y;  
}  
else  
{  
temp=z;  
}  
  
}  
  
return(temp);  
}//end of largest function definition  
  
//output:
```

## **Output**



A screenshot of the Turbo C++ IDE window. The title bar says "Turbo C++ IDE". The main window contains the following text:  
Enter any three numbers:34 78 32  
Largest Number is :78

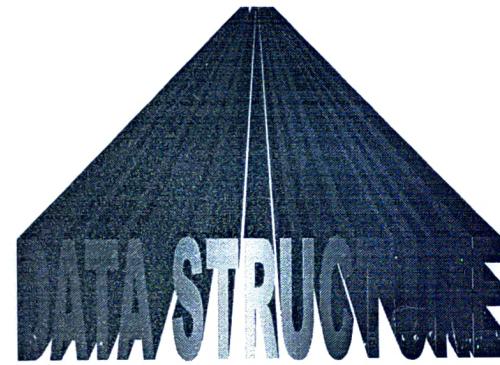


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**Question: WAP to input range and number and arrange it using linked list?**

SOLU:

```
#include<stdio.h>
#include<alloc.h>

Struct node
{
    int data;
    struct node *link;
};

main()
{
    Struct node *p,*q,*r,*s,*t;
    int i=0,a,b;
    clrscr();
    p=NULL;
    printf("\n b=");
    scanf("%d",&b);
    while(i!=b)
    {
        i++;
        printf("\n a=");
        scanf("%d",&a);
```



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---

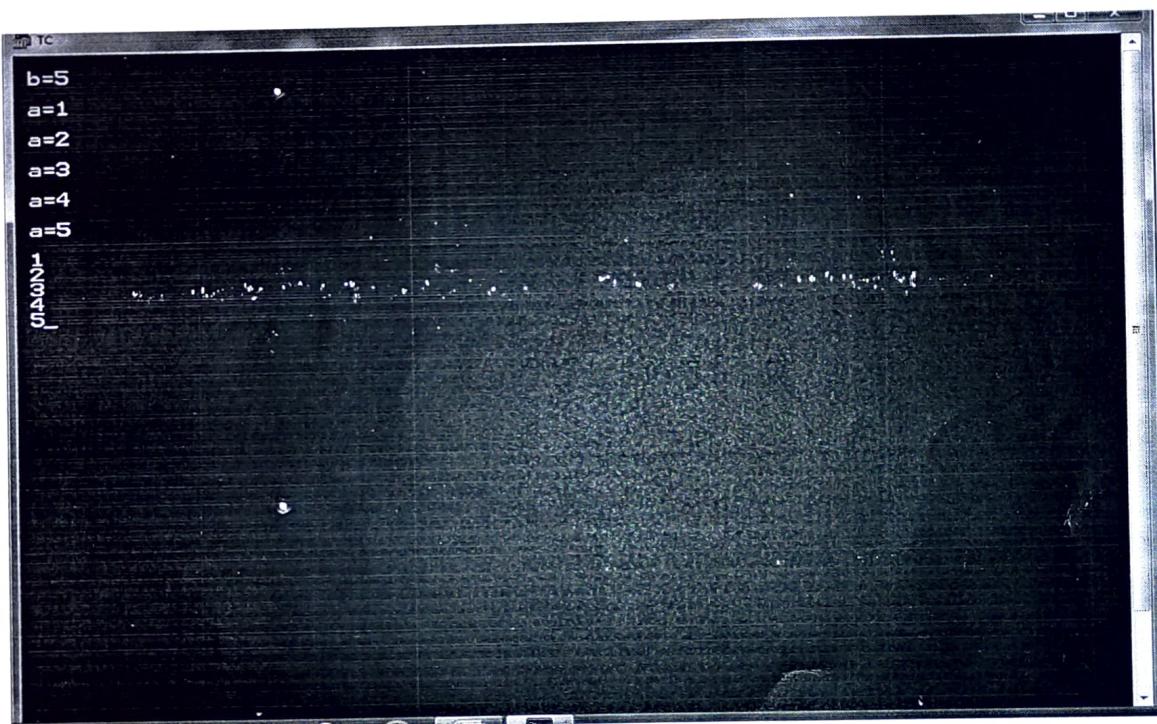
```
if(p==NULL)
{
    r=malloc(sizeof(struct node));
    r->data=a;
    r->link=NULL;
    p=r;
}
else
{
    s=p;
    while(s->link!=NULL)
        s=s->link;
    t=malloc(sizeof(struct node));
    t->data=a;
    t->link=NULL;
    s->link=t;
}
}
}

While(p!=NULL)
{
    printf("\n %d",p->data);
    p=p->link;
}
getch();
```

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}

OUTPUT:



```
b=5
a=1
a=2
a=3
a=4
a=5
1
2
3
4
5
```



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Question : WAP to input any number and print in ascending order using linked list?

SOLU:

```
#include<stdio.h>
#include<alloc.h>
Struct node
{
    int data;
    struct node *link;
};
main()
{
    struct node *p,*q,*r,*s,*t;
    int i=0,y,n=0,k,temp,b,a;
    clrscr();
    p=NULL;
    printf("\n a=");
    scanf("%d",&a);
    while(i!=a)
    {
        i++;
        printf("\n b=");
        scanf("%d",&b);
```



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```
q=malloc(sizeof(struct node));
q->data=b;
q->link=p;
p=q;
}
Printf("\n bubble";
r=p;
while(r!=NULL)
{
Printf("\n %d",r->data);
r=r->link;
n++;
}
K=n;
For(i=0;i<n-1;i++,k--)
{
s=p;
t=s->link;
for(y=1;y<k;y++)
{
If(s->data>t->data)
{
Temp=s->data;
s->data=t->data;
t->data=Temp;
}
}
```



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---

```
t->data=temp;  
}  
  
s=s->link;  
t=t->link;  
}  
}  
  
While(p!=NULL)  
{  
    Printf("\n %d",p->data);  
    P=p->link;  
}  
getch();  
}
```

OUTPUT:

```
a=5  
b=10  
b=50  
b=4  
b=8  
b=9  
bubble  
4  
8  
10  
12  
14  
16  
18  
20  
22  
24  
26  
28  
30  
32  
34  
36  
38  
40  
42  
44  
46  
48  
50
```



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Question: WAP to input data can be insert, delete, display and exit to a program?

SOLU:

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

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

```
#include<process.h>
```

```
Class queue
```

```
{
```

```
int a[10],fr,rear;
```

```
public:
```

```
void insert();
```

```
void del();
```

```
void display();
```

```
queue();
```

```
};
```

```
Void queue::insert()
```

```
Cout<<"enter data";
```

```
Cin>>a[rear];
```

```
rear++;
```

```
}
```

```
Queue::queue()
```

```
{
```

```
fr=0;
```

```
rear=0;
```



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---

```
}

Void queue::del()
{
    Cout<<"deleted item=" <<a[fr];
    fr++;
}

Void queue::display()
{
    int i;
    for(i=fr;i<rear;i++)
        cout<<a[i]<<"\t";
}

Void main()
{
    Int ch;
    Queue q;
    do
    {
        Cout<<"1. Insert\n 2.delete\n 3.display\n 4.exit";
        Cin>>ch;
        Switch(ch)
        {
            Case 1:
                q.insert();
            Case 2:
                q.del();
            Case 3:
                q.display();
            Case 4:
                break;
        }
    } while(ch!=4);
}
```



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```
break;  
case 2:  
q.delete();  
break;  
case 3:  
q.display();  
break;  
case 4:  
exit(0);  
}  
}while(1);  
}
```

OUTPUT:

The screenshot shows a Windows command-line interface window titled 'C:\TCWIN45\BIN\NONAME22.EXE'. The window displays the following text:

```
1. Insert  
2.delete  
3.display  
4.exit1  
enter data3  
1. Insert  
2.delete  
3.display  
4.exit3  
3      1. Insert  
2.delete  
3.display  
4.exit_
```



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Question: WAP to push, pop, display and exit in a stack?

SOLU:

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

Class stack
{
    int a[20],top;
public:
    void push()
    {
        top++;
        if(top<20)
        {
            Cout<<"\n enter any no";
            Cin>'>a[top];
        }
        else
            cout<<"\n stack is full";
    }
    Stack()
```



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```
{  
top=-1;  
}  
  
Void pop()  
{  
if(top>=0)  
{  
Cout<<"\n deleted item=" <<a[top];  
top--;  
}  
else  
cout<<"\n stack is empty";  
}  
  
Void display()  
{  
for(int i=0;i<=top;i++)  
{  
Cout<<a[i]<<"\t";  
}  
}  
};  
  
Void main()  
{  
Stack st;
```



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```
int ch;  
do  
{  
    Cout<<"1.push\n 2.pop\n 3.display\n 4.exit";  
    Cin>>ch;  
    Switch(ch)  
    {  
        Case 1:  
            St.push();  
            Break;  
        Case 2:  
            St.pop();  
            Break;  
        Case 3:  
            St.display();  
            Break;  
        Case 4:  
            exit(0);  
    }  
}while(1);  
}
```



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**OUTPUT:**

```
C:\TCWIN45\BIN\NONAME23.EXE
1.push
2.pop
3.display
4.exit1

enter any no6
1.push
2.pop
3.display
4.exit3
6      1.push
2.pop
3.display
4.exit
```



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Question: WAP to insert, delete, display and exit to a program?

SOLU:

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

Class dequeue
{
    int dq[20],fr,rear;
public:
    void insertfr()
    {
        Cout<<"\n enter data";
        Cin>>dq[fr];
        fr--;
    }
    Void inser_rear()
    {
        Cout<<"\n enter data";
        Cin>>dq[rear];
        rear++;
    }
    Void delete_rear()
    {
```



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```
rear--;

cout<<"deleted Item=" << dq[fr];

fr++;
}

dequeue()

{
fr=0;

rear=0;
}

Void display()

{
int i;

for(i=fr;i<rear;i++)
cout<<dq[i];

}
}

Void main()

{
dequeue d;
int ch;
do
{
Cout<<"1. Insertfr\n 2.inser_rear\n 3.delete_rear\n 4.display\n 5.exit";
Cin>>ch;
```



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---

```
Switch(ch)
{
    Case 1:
        d.insertfr();
        break;
    case 2:
        d.inser_rear();
        break;
    case 3:
        d.delete_rear();
        break;
    case 4:
        display();
        break;
    case 5:
        exit(0);
}
}while(1);
}
```



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OUTPUT:

The screenshot shows a Windows command-line interface window titled "C:\TCWIN45\BIN\NONAME24.EXE". The window displays the following text:

```
1. insertfr
2.inser_rear
3.delete_rear
4.exit1

enter data4
1. insertfr
2.inser_rear
3.delete_rear
4.exit2

enter data5
1. insertfr
2.inser_rear
3.delete_rear
4.exit_
```



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Question: WAP to input range and number of element and also add in first position and desire position?

SOLU:

```
#include<stdio.h>
#include<malloc.h>

Struct node
{
    Struct node *link;
};

main()
{
    Struct node *u,*temp,*v,*p,*r,*s,*t;
    int i=0,a,b,d;
    clrscr();
    p=NULL;
    printf("\n b=");
    scanf("%d",&b);
    while(i!=b)
    {
        i++;
        printf("\n a=");
        scanf("%d",&a);
```



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```
i(p==NULL)
{
r=malloc(sizeof(struct node));
r->data=a;
r->link=NULL;
p=r;
}
else
{
Suman=p;
While(s->link!=NULL);
S=s->link;
t=malloc(sizeof(struct node));
t->data=a;
t->link=NULL;
s->link=t;
}
}
Printf("\n add first");
Scanf("%d",&a);
u=malloc(sizeof(struct node));
u->data=a;
u->link=p;
prntf("\n add after desire node anmd number");
```



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```
scanf("%d%d",&u,&b);  
i=0;  
temp=u;  
for(i=1;i<a;i++)  
temp=temp->link;  
v=malloc(sizeof(struct node));  
v->data=d;  
v->link=temp->link;  
temp->link=v;
```

```
while(u!=NULL)  
{
```

```
    printf("\nm %d",u->data);
```

```
    u=u->data;
```

```
}
```

```
getch();
```

```
}
```

OUTPUT:

```
b=1  
a=2  
add first  
add first after destre node and no2 3  
2342
```



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Question: WAP to check whether the word is palindrome or not using stack?

SOLU:

```
#include<stdio.h>
#include<conio.h>
int top=-1;
void push(char s[],char c)
{
    top++;
    s[top]=c;
}
Char pop(char s[])
{
    Char c;
    C=s[top];
    top--;
    return(c);
}
Void palin()
{
    int n;
    char c,w[80],palin='t';
    printf("\n enter word or phrase and press");
    while((c=getchar())!='\n')
```



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```
push(w,c);
w[top+1]='\0';
n=0;
while(n<top)
{
If(pop(w)!=w[n])
{
Palin='f';
Break;
}
n++;
}

If(palin=='t');
Printf("\n palindromm");
Else
Printf("\n not palindromm");
}

int main()
{
Palin();
return(0);
}
```



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### OUTPUT:

```
(Inactive C:\TCWIN45\BINNONAME25.EXE)
enter word or phrase and press a key
palindromm
```



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Question: WAP to check proper nesting of parenthesis?

SOLU:

```
#include<stdio.h>
#include<string.h>
int len, top=0;
void push(char s[],char c)
{
    top++;
    s[top]=c;
}
Char pop(char s[])
{
    Char c;
    C=s[top];
    top--;
    return(c);
}
int main()
{
    int n;
    char valid='t',c1,c2,s[40];
    printf("\n expression with():");
```



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---

```
scanf("%s",s);
len=strlen(s);
n=0;
while(n<len)
{
    C1=s[n];
    if(c1=='')
        push(s,c1);
    if(c1=='')
    {
    {
        C2=pop(s);
        If(c2!=')
            Valid='f';
        }
        }
    n++;
}
if(s[top]=='t')
    valid='f';
if(valid=='t')
    printf("\n parenthesis match\n");
else
    printf("\n parenthesis do not match\n");
```



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```
return(0);
```

```
}
```

### OUTPUT:

A screenshot of a terminal window titled '(Inactive C:\TCWIN45\BIN\NONAME26.EXE)'. The window displays the following text:  
expression with():hello  
parenthesis match