10. Program for swapping of two numbers using third number.

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
int a, b, c;
cout<<"Enter a : ";
cin>>a;
cout<<"Enter b : ";
cin>>b;
c=a;
a=b;
b=c;
cout<<"\na=  "<<a<<"\n"<<"b=  "<<b;
}
```


OUTPUT

Enter a: 5

Enter b: 7

a= 7

b= 5

16. Program that seeds the name of user and number of unit and displays the electricity charge with name.

The electricity board charges according to following data:

For first 100 units = 40p/unit

For next 200 units = 50p/unit

Beyond 300 units = 60p/unit

All the users are charged motor charge also which is Rs 50.


```
#include<iostream.h>
#include<stdio.h>
#include<conio.h>
void main()
{
clrscr();
char name[25];
int unit, charge;
cout<<"Enter your name:  ";
gets(name);
cout<<"Enter total units:  "<<"\n";
cin>>unit;
if(unit<=100)
```

18. Program that accepts a character between A and J and prints next 4 characters.

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
char ch;
cout<<"Enter character between A to J:  ";
cin>>ch;
int num =ch;
cout<<char(num+1);
cout<<" "<<char(num+2);
cout<<" "<<char(num+3);
cout<<" "<<char(num+4);
}
```


OUTPUT

```
Enter character between A to J:  F
G H I J
```

```
#include<iostream.h>
#include<conio.h>
void main()
{
clrscr();
int n,i;
cout<<"\nEnter any number  :";
cin>>n;
for(i=1;i<=10;i++)
{
cout<<"\t";
cout<<n*i;
}
}
```


OUTPUT

Enter any number: 2

2 4 6 8 10 12 14 16 18 20

26. Program to print roots of a quadratic equation.

```
#include<iostream.h>
#include<math.h>
#include<conio.h>
void main()
{
clrscr();
int j,i;

for(i=0;i<=7;++i)
{
j=pow(2,i);
cout<<j<<" ";
}
}
```


OUTPUT

1 2 4 8 16 32 64 128

29. Program that prints first n natural numbers and prints their sum.

```
#include<string.h>
void main()
{
int n, n1, n2=n, rev=0;
cout<<"Enter any number:  ";
cin>>n;
while(n)
{n1=n%10;
rev=rev*10+n1;
n=n/10;
}
if(n2==rev)
cout<<"\nNumber is palindrome";
else
cout<<"\nNumber is not palindrome";
}
```


OUTPUT

```
Enter any number:  121
Number is palindrome
```

39. Program to check whether entered character is an alphabet or not.

```
        cin>>a;
        c=cube(a);
        cout<<"Cube of the number: "<<c;
}
int cube(int b)
{
        int n;
        n=b*b*b;
        return n;
}
```


OUTPUT

```
Enter number: 5
Cube of the number: 125
```

47. Program to print largest even and odd number from a list of numbers entered through keyboard. The list terminates as soon as one enters zero (using function).

```
#include<iostream.h>
#include<conio.h>
void even_odd(int);
void main()
{
```

```
        clrscr();
        int n;
        even_odd(n);
}
void even_odd(int n)
{
        int maxeven=0, maxodd=0;
        while(n)
        {
                cout<<"Enter number:";
                cin>>n;
                if(n%2==0)
                {
                        if(n>maxeven)
                                maxeven=n;
                }
                else if(n%2==1)
                {
                        if(n>maxodd)
                                maxodd=n;
                }
                else if(n==0)
                        break;
```

```
        }
        cout<<"Largest odd number:"<<maxodd<<"\n Largest even
        number:"<<maxeven;
}
```

OUTPUT

```
Enter number:5
6
8
9
7
15
18
Largest odd number: 15
Largest even number: 18
```


48. Program to calculate factorial of a number (using function).

```
#include<iostream.h>
void factorial(int);
void main()
{       int n;
        cout<<"Enter number:";
        cin>>n;
        factorial(n);
}
```

```
{       int temp;
        temp =c;
        c=d;
        d=temp;
        cout<< "\nValues after swapping numbers."
        cout<< "\nNum1"<<c<<"\nNum2"<<d;
}
```

OUTPUT

```
Enter num1: 9
Enter num2: 15
Value after swapping numbers.
Num1: 15
Num2: 9
```


33. Program to find sum of digits of a number (using function).

```
#include<iostream.h>
int sum(int);
void main()
{       int n,s;
        cout<<"Enter number:";
        cin>>n;
        s=sum(n);
        cout<< "\n Sum of digits :"<<s;
```

```
            for(j=0; j<4; j++)
                  cout<<A[i][j]<<" ";}
      for(i=0; i<3; i++)
      for(j=0; j<3; j++)
            {     B[k]=A[i][j];
                  k++;}
      for(k=0; k<9; k++)
      cout<<B[k];
}
```

OUTPUT

```
Enter Array A:    1 2 3
                  1 2 3
                  1 2 3
Array B:    1 2 3 1 2 3 1 2 3
```


58. Program to concatenate two arrays.

```
#include<iostream.h>
void main()
{     int i, j, k;
      int A[5], B[5], C[10];
      cout<<"Enter array A:";
      for(i=0; i<5; i++)
            cin>>A[i];
      cout<<"Enter array B:";
      for(j=0;j<5;j++)
```

```
        for(i=0; i<3; i++)
        {       sum=0;
                for(int j=0; j<3; j++)
                        sum=sum+A[i][j];
                cout<< "\nSum of row"<<i+1<< " is " <<sum<<"\n";
        }
}
```

OUTPUT

```
Enter matrix A:    1    2    3
                   4    5    6
                   7    8    9
Sum of row 1 is 6
Sum of row 2 is 15
Sum of row 3 is 24
```


61. Program to multiply two matrices.

```
#include<iostream.h>
#include<conio.h>
void main()
{
        int A[3][3], B[3][3], C[3][3];
        cout<<"Enter matrix A:";
        for(int i=0; i<3; i++)
        {
```

```
        for(int j=0; j<3; j++)
        cin>>A[i][j];
}
cout<<"Enter matrix B:";
for(i=0; i<3; i++)
{
        for(int j=0; j<3; j++)
        cin>>B[i][j];
}
cout<< “\nMatrix A × matrix B :”
for(i=0; i<3; i++)
{
        cout<<"\n";
        for(int j=0; j<3; j++)
        {
                int sum=0;
                for(int k=0; k<3; k++)
                {
                        sum+=A[i][j]*B[k][j];
                }
                cout<<sum<<" ";
        }
}
```