

PART A

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PART A

1. Program to find the LARGEST of 3 numbers.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int a,b,c,l;
    clrscr();
    cout<<"enter value for a,b,c=";
    cin>>a>>b>>c;
    if(a>b)
    {
        if(a>c)
        l=a;
        else
        l=c;
    }
    else if(b>c)
    l=b;
    else
    l=c;
    cout<<"largest of"<<a<<b<<"and"<<c<<"is"<<l;
    getch();
}
```

OUTPUT:

```
Enter values for a, b, c=9 2 11
Largest of 9,2 and 11 is=11
```

2. Program to check whether the entered number is palindrome or not.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int num,sum=0,rev=0,m,rem;
    clrscr();
    cout<<"Enter the number:";
    cin>>num;
    m=num;
    while(num>0)
    {
        rem=num%10;
        rev=rev*10+rem;
        sum=sum+rem;
        num=num/10;
    }
    cout<<"Reverse of the"<<m<<"is"<<rev<<endl;
    cout<<"The sum of each digit of"<<m<<"is"<<sum<<endl;
    if(m==rev)
        cout<<"The number"<<m<<"is palindrome"<<endl;
    else
        cout<<"The number"<<m<<"is not palindrome"<<endl;
    getch();
}
```

OUTPUT:

```
Enter the number:121
Reverse of the121is121
The sum of each digit of121is4
The number121is palindrome
```

```
Enter the number:123
Reverse of the123is321
The sum of each digit of123is6
The number123is not palindrome
```

3. Program to calculate tax, net salary depending upon the initial salary.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    float tax, sal, netsal;
    int n;
    clrscr();
    cout<<"Enter your salary=";
    cin>>sal;
    n=(int)sal/1000;
    switch(n)
    {
        case 0:
        case 1:
            tax=0;
            break;

        case 2:
        case 3:
            tax=sal*0.03;
            break;

        case 4:
        case 5:
            tax=sal*0.05;
            break;

        default :
            tax=sal*0.08;
            break;
    } netsal=sal-tax;
    cout<<"Tax : "<<tax<<endl;
    cout<<"Net salary:"<<netsal<<endl;
    getch();
}
```


OUTPUT:

```
Enter your salary=25000
Tax :2000
Net salary:23000
```

4. Program to find whether given number is Armstrong or not.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int sum=0,num=0,rem=0,n,m;
    clrscr();
    cout<<"Enter your number:";
    cin>>n;
    m=n;
    while(num>0)
    {
        rem=n%10; rem=sum+
        (rem*rem*rem); n=n/10;
    }
    if(m==sum)
        cout<<"The number is not armstrong";
    else
        cout<<"The number is armstrong";
    getch();
}
```

OUTPUT:

```
Enter your number:153
The number is armstrong
```

```
Enter your number:135
The number is not armstrong
```

5. Program to find LCM and GCD of two numbers.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int n1, n2, num1, num2, lcm, gcd, temp;
    clrscr();
    cout << "Enter 2 numbers:";
    cin >> n1 >> n2;
    num1 = n1;
    num2 = n2;
    while (num2 != 0)
    {
        temp = num2;
        num2 = num1 % num2;
        num1 = temp;
    }
    gcd = num1;
    lcm = (n1 * n2) / gcd;
    cout << "LCM of 2 numbers is" << lcm << endl;
    cout << "GCD of 2 numbers is" << gcd;
    getch();
}
```

OUTPUT:

```
Enter 2 numbers:2 4
LCM of 2 numbers is4
GCD of 2 numbers is2
```

6. Program to generate Fibonacci Series given range as the number of terms.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int n1=0, n2=1, n3, number, i;
    clrscr();
    cout <<"Enter the range:";
    cin>>number;
    cout<<"Your fibonacci series are:"<<n1<<" "<<n2<<" ";
    for (i=2; i<number; i++)
    {
        n3=n1+n2;
        cout<<n3<<" ";
        n1=n2;
        n2=n3;
    }
    getch();
}
```

OUTPUT:

```
Enter the range:10
```

```
Your fibonacci series are:0 1 1 2 3 5 8 13 21 34
```

7. Program to convert decimal number to binary number.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int n, bin=0, base=1, rem;
    clrscr();
    cout<<"Enter the decimal number:";
    cin>>n;
    while (n>0)
    {
        rem=n%2; bin=bin+
        (rem*base); n=n/2;
        base=base*10;
    }
    cout<<"The binary number is:"<<bin;
    getch();
}
```


OUTPUT:

```
Enter the decimal number:25
The binary number is:11001
```

8. Program to generate the prime number given range as number of terms.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int n, i, j, flag;
    clrscr();
    cout<<"Enter the range:";
    cin>>n;
    cout<<"Prime number b/w 1 and "<<n<<"are:";
    for (i=2; i<=n; i++)
    {
        flag=1;
        for (j=2; j<=i/j; j++)
        {
            if (i%j==0)
            {
                flag=0;
                break;
            }
        }
        if (flag==1)
            cout<<i<<" ";
    }
    getch();
}
```

OUTPUT:

```
Enter the range:10
Prime number b/w 1 and 10are:2 3 5 7
```

PART B

1. Program to find sum and average of element's in one dimensional array.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int a[50], i, n, sum=0, avg;
    clrscr();
    cout<<"Range of elements:"<<endl;
    cin>>n;
    cout<<"Element are:"<<endl;
    for(i=0;i<n;i++)
    {
        cin>>a[i];
    }
    for (i=0;i<n;i++)
    {
        sum=sum+a[i];
    }
    avg=sum/n;
    cout<<"Sum of element are="<<sum<<endl;
    cout<<"Average of element are="<<avg<<endl;
    getch();
}
```

OUTPUT:

```
Range of elements:
5
Element are:
5 10 15 20 25
Sum of element are=75
Average of element are=15
```

2. Program to find out smallest and largest element in given array and also find out those elements are at which location.

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int a[50], i, n, max, min, minloc, maxloc;
    clrscr();
    cout<<"Enter the size:";
    cin>>n;
    cout<<"Enter the elements:";
    for(i=0;i<n;i++)
    {
        cin>>a[i];
    }
    max=a[0];
    maxloc=0;
    for (i=0;i<n;i++)
    {
        if(max<a[i])
        {
            max=a[i];
            maxloc=i;
        }
    }
    min=a[0];
    minloc=0;
    for (i=0;i<n;i++)
    {
        if(min>a[i])
        {
            min=a[i];
            minloc=i;
        }
    }
}
```

```
cout<<"Largest element in an array is:"<<max<<endl;
cout<<"The largest element"<<max<<"is located at"<<maxloc+1<<endl;
cout<<"Smallest element in an array is"<<min<<endl;
cout<<"The smallest element"<<min<<"is located at"<<minloc+1<<endl;
getch();
}
```


OUTPUT:

```
Enter the size:5
Enter the elements:2 4 6 8 10
Largest element in an array is:10
The largest element10is located at5
Smallest element in an array is2
The smallest element2is located at1
```

3. Program to perform multiplication operation on two matrixes.

```
#include<iostream.h>
#include<conio.h>
#include<iomanip.h>
int main()
{
    int a[10][10], b[10][10], c[10][10],m,n,p,q,i,j,k;
    clrscr();
    cout<<"Enter rows and columns for matrix A:";
    cin>>m>>n;
    cout<<"Enter the elements for matrix A:"<<endl;
    for(i=0;i<m;i++)
    for(j=0;j<n;j++)
    cin>>a[i][j];
    cout<<"Enter rows and columns for matrix B:";
    cin>>p>>q;
    cout<<"Enter the elements for matrix B:"<<endl;
    for(i=0;i<p;i++)
    for(j=0;j<q;j++)
    cin>>b[i][j];
    for(i=0;i<n;i++)
    for(j=0;j<p;j++)
    {
        c[i][j];
        for(k=0;k<n;k++)
        c[i][j]=c[i][j]+(a[i][k]*b[k][j]);
    }
    cout<<"Result of matrix is:"<<endl;
    for(i=0;i<m;i++)
    {
        for(j=0;j<q;j++)
        cout<<setw(5)<<c[i][j];
        cout<<endl;
    }
    getch();
}
```

OUTPUT:

```
Enter rows and columns for matrix A:2 2
Enter the elements for matrix A:
2 3
4 5
Enter rows and columns for matrix B:2 2
Enter the elements for matrix B:
2 3
5 6
Result of matrix is:
    19    24
    33    42
```

4. Program to find out transpose of matrix and check whether they are symmetric or not.

```
#include<iostream.h>
#include<conio.h>
#include<iomanip.h>
void main()
{
    int a[10][10], i, j, m, n, flag=1;
    clrscr();
    cout<<"Enter the order of matrix :";
    cin>>m>>n;
    cout<<"Enter the elements:"<<endl;
    for(i=0;i<n;i++)
    for(j=0;j<n;j++)
    cin>>a[i][j];
    cout<<"Transpose of given matrix is \n";
    for(i=0;i<n;i++)
    {
        for (j=0;j<n;j++)
        cout<<setw(5)<<a[i][j];
        cout<<endl;
    } If(m!=n)
    cout<<"Matrix cannot be symetric.";
    else
    {
        for(i=0;i<m;i++)
        for(j=0;j<n;j++)
        if(a[i][j]!=a[j][i])
        {
            flag=0;
            break;
        }
        if(flag==1)
        cout<<"Matrix is symetric.";
        else
        cout<<"Matrix is symetric.";
    } getch();
}
```

OUTPUT:

Enter the order of matrix :2 2

Enter the elements:

2 3

6 5

Transpose of given matrix is

2 3

6 5

Matrix is not symetric.

Enter the order of matrix :2 2

Enter the elements:

5 2

2 5

Transpose of given matrix is

5 2

2 5

Matrix is symetric.

5. Program to check that given string is palindrome or not.

```
#include<iostream.h>
#include<conio.h>
#include<iomanip.h>
#include<string.h>
void main()
{
    int i, j, l=0;
    char a[10];
    clrscr();
    cout<<"Enter your string:";
    cin>>a; for(i=0;a[i]!='\0';i+
    +)
    l++;
    i=0;
    j=l-1;
    while (i<j)
    {
        if (a[i]!=a[j])
        {
            break;
        }
        i++;
        j--;
    }
    if(i>=j)
    cout<<"The string is palindrom.";
    else
    cout<<"This string is not palindrom.";
    getch();
}
```

OUTPUT:

```
Enter your string:malayalam
The string is palindrom.
```

```
Enter your string:krishna
This string is not palindrom.
```