```
#include<stdio.h>
#include<math.h>
                                    // DECIMA L TO BINAR Y

  int    main()
  {

                int  n , t , i = 0  , s = 0;

                printf(" ENTER  DE CIMA L  NO \n ");

                scanf("%d" , &n);

                while( n != 0 )
                {
                            t = n % 2 ;  // remainder

                            s = s + t * pow(10,i);

                            i++;

                            n = n / 2 ;  // reduce
                }

                printf("  BINARY  NO = %d\n " , s);

        }

        /*
```

---

n = 6 , s = 0 , i = 0

	t	S = S + t * POW(10,i)	i	n
6 != 0	0	s = 0 + 0 * pow(10,0) = 0	1	3
3 != 0	1	s = 0 + 1 * pow(10,1) = 10	2	1
1 != 0	1	s = 10 + 1 * pow(10,2) = 110	3	0
0 != 0	X	BINARY NO. = 110		

// BINARY TO DECIMAL

```
#include<stdio.h>
#include<math.h>
int  main()
{
        int n , t , i = 0 , s = 0;

        printf(" enter binary no\n ");

        scanf("%d" , &n);
```

```
        while( n != 0 )
        {
                t = n % 10; // remainder

                s = s + t * pow( 2,i );

                i++;

                n = n / 10; // reduce
        }

        printf(" decimal no = %d\n " , s );

  }

                // DECIMAL TO OCTAL

#include<stdio.h>
#include<math.h>

   int main()
   {

                int n , t , i = 0 , s = 0 ;

                 printf(" ENTER DECIMAL NO\n ");

                 scanf("%d" , &n);

                 while( n != 0 )
```

```
        {
                t = n % 8 ; // remainder

                s = s + t * pow( 10,i );

                i++;

                n = n / 8 ; // reduce
        }

        printf("  OCTA L   NO = %d\n " , s);


    }
```

// OCTAL TO DECIMAL

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

  int  main()
  {

            int  n , t , i = 0 , s = 0 ;

             printf(" ENTER OCTAL NO\n ");

             scanf("%d" , &n);

             while( n != 0 )
             {
                      t = n % 10 ; // remainder
```

```
                s = s + t * pow( 8,i );

                i++;

                n = n / 10 ; // reduce
            }

            printf("  DECIMAL  NO = %d\n " , s);

        }

          // REVERSE   NUMBER

/*
 ---------------------------------------------------------------------

            n = 125 , s  = 0


            0  * 10  +  5  =  5

            5  * 10  +  2  =  52

            52 * 10  +  1  =  521

              s  * 10  +  t  =  s

 ---------------------------------------------------------------------
*/
```

```
#include<stdio.h>

  int    main()
  {
              int  n , t , s = 0 ;

              printf(" ENTER  NO \n ");

              scanf("%d", &n);

              while( n != 0 )
              {
                          t = n % 10 ; // remainder

                          s = s * 10 + t;

                          n = n / 10 ; // reduce

              }
              printf(" RE VE RSE  NO  = %d\n " , s);


  }

/*
-------------------------------------------------------------------------------

      N          T       S =  S * 10 + T              N

      125!= 0     5       S  = 0 * 10 + 5 = 5          12
```

12!= 0 2 S = 5 * 10 + 2 = 52 1

1 != 0 1 S = 52* 10 + 1 = 521 0

0 != 0 REVERSE = S = 521

PALINDROME

---

n = 121

REVERSE = 121

---

nitin

madam

mom

---

length = l = 3

for i = l-1 to 0

125 / 100 = 1

25 / 10 = 2

5 / 1 = 5

```
#include<stdio.h>

                                    //  PALINDROME
  int    main()
  {

                int  n ,t , p , q, s = 0;

                printf(" enter no\n ");

                scanf(" %d", &n);

          s = 0 ;

          p = n ; // imp

               while( p != 0 )
               {
                    t = p % 10;  // remainder

                    s = s * 10 + t ;

                    p = p / 10 ; // reduce
```

```
            }// REVERSE

            if( s == n)
            {
                  printf("PALINDROME");
            }
            else
      {
         printf("NOT PALINDROME");

      }

}


      /*
      e.g. p = n = 125 , s = 0 ,

          125 != 0

          t = 125 % 10   =  5

          s = 0 * 10 + 5 =  5

          n = 125 / 10   = 12

    ----------------------------------------
          12 != 0

          t = 12 % 10    =  2
```

```
        s = 5 * 10 + 2  = 52

        n = 12 / 10     =  1

    ----------------------------------------
        1 != 0

        t = 1 % 10      =  1

        s = 52 * 10 + 1 = 521

    ----------------------------------------

        0 != 0 X

        if (   s == p )
        if ( 521 == 125 ) X

        not  palindrome



  ---------------------------------------------------------------------------
  */

/*
---------------------------------------------------------------------------

        n = 125

        print --> 1
```

```
                2
                5
-------------------------------------------------------------------------------------

        length  = l = 3

        for i = l-1  to 0

                print
        125 / 100  = 1

        25 / 10    = 2

        5 / 1     =  5

-------------------------------------------------------------------------------
*/

#include<stdio.h>
#include<math.h>

  int    main()
  {
            int  n , t , l , p , q , i ;

            printf(" ENTER  NO \n ");

            scanf("%d",&n);

            p = n ;
```

```
        l = 0 ;

        while( p != 0 )
        {
                p = p / 10 ;

                l++;

        } // LENGTH  OF  THE NO.


        for( i = l - 1 ; i >= 0 ; i-- )
        {
            q = pow (10,i) ;        // pow() return float value

                                    // convert float to integer

            t = n / q;

            printf(" %d\n" , t);

            n = n % q  ;  // remainder
        }

 }

/*
-------------------------------------------------------------------------------

        e.g.  p = n = 125 ;
```

length of n = l = 3

for i = 2 to 0

i	q = pow(10,i)	t = n / q	print	n = n % q
2	100	t = 125/100 = 1		n = 125 % 100 = 25
1	10	t = 25 / 10 = 2		n = 25 % 10 = 5
0	1	t = 5 / 1 = 5		n = 5 % 1 = 0

---

n = 123 ANS --> 1 4 9

printf(" %d \t " , t * t);

```
/*

            n = 125

                                ONE

                                TWO

                                FIVE
                            */
#include<stdio.h>
#include<math.h>

  int   main()
  {

          int n,t,l, p, q,i, s=0;

     printf("enter no\n");

     scanf("%d",&n);

     p = n;       l = 0 ;

    while(n != 0)
    {
       n = n / 10 ;
       l++;

    } // length of n
```

```
for( i = l-1 ; i >= 0 ; i--)
{
        q = pow (10,i) ;

        t = p / q;

        switch( t )
        {
                case 0 : printf(" ZERO  "); break;

                case 1 : printf(" ONE  "); break;

                case 2 : printf(" TWO  "); break;

                case 3 : printf(" THREE  "); break;

                case 4 : printf(" FOUR "); break;

                case 5 : printf(" FIV E  "); break;

                case 6 : printf(" SIX   "); break;

                case 7 : printf(" SE VEN  "); break;

                case 8 : printf(" EIGHT  "); break;

                case 9 : printf(" NINE  "); break;

      }
```

```
            p = p % q;  // remainder
    }


  }

/*
```

1. LENGTH n = n / 10 ; l++;
2. REMAINDER PRINT t = n % 10
3. SUM OF DIGITS s = s + t
4. ARMSTRONG'S NOS s = s + pow(t,l)
5. DECIMAL TO BINARY s = s + t * pow(10,i) ; i++;
6. BINARY TO DECIMAL s = s + t * pow(2,i) ; i++;
7. REVERSE NOS s = s * 10 + t ;
8. PRINT DIGIT p = p / pow(10,i) ; length
9. STRONG'S NO. S = S + F ;

```
*/
```