Decimal to binary

11.
```
# include <stdio.h>
# include <conio.h>
void main ()
{ int a, r, q, s=0;
printf ("Enter the number");
scanf ("%d", a);

while (a!=0)
{
    r = a%2;

    s = s+(r*q);
    q*= 10;
}

printf ("binary = %d", s);

getch ();
}
```

$$\begin{array}{r|l} 2 & 25 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 2 & 3 \\ \hline & 1 \end{array} \begin{array}{l} -1 \\ -0 \\ -0 \\ -1 \end{array}$$

Binary to decimal

12.

```c
#include <stdio.h>
#include <conio.h>
void main ()
{ int a;
int a, i, d=0, r, p=1, c=0;
printf (" Enter binary Number");
scanf ("%d", &a);

while (a!=0)
{ r = a%10;
a/= 10;

for (i=0; i<ic; i++)
P = P*2;
}
c++;

d = d + (r*p);
P=0;
}
printf (" decimal Number = %d", d);

getch();
}
```

Patterns

```
1.   #include <stdio.h>
     #include <conio.h>
     void main ()
     { int i j;
     for (i=1 ; i<=4 ; i++)

     {  for (j=1; j<=i ; j++)

     { printf (" *");
     }
     printf (" \n");
     }
     getch ();
     }
```

```
                                    *
                                   * *
                                  * * *
                                 * * * *
```

```
2.   #include <stdio.h>
     #include <conio.h>
     void. main ()
     { int i,j;

     for ( i=1 ; i<=4 ; i++)
     {
     for (j=1; j<=i ; j++)
     for (j=1 ; j<=((2*i)-1); j++)
     { printf (" *");
     } printf ("\n"); } getch(); }
```

```
                                    *
                                  * * *
                                * * * * *
                              * * * * * * *
```

```c
3.  #include <stdio.h>
    #include <conio.h>
    void main ()
    { int j, i, k=0;

    for (i=1 ; i<= 3 ; i++)
    {
        for (j=1 ; j<= (3-i) ; j++)
        { printf ("  ");
        }

        while (k<((2*i)-1))
        { printf (" * ");
          k++;
        } k=0;
        printf (" \n");
    }
        getch ();
    }
```

```
#include  <stdio.h>                    83
#include  <conio.h>
void  main ()
{
    int i, j, k=1, s=0,
    for (i=1; i<=3; i++)
    {
        for (j=1; j<=2 (3-i); j++)
        {
            printf (" ");
        }
        while (k<i)
        & printf (" * ");
        while (k<10)
        { while (s<((2*i)-3 )  ((2*i)-3)>0
            { printf ("   ");
            s++;
        } s=0;
        printf (" * ");
        k++;
        } printf (" \n");
        k=0;
    } getch ();
}
    {
    }
```

1

5.

```c
#include <stdio.h>                    1   2   3
#include <conio.h>                  1  2   3   4  5
void main ()
{
    int i, j, k = 0 ;
    for (i = 1 ; i <= 3 ; i++)
    {
        for (j = 1; j <= (3 - i); j++)
        printf ("   ");

        while (k < ((2*i) - 1))
        {
            k++;
            printf ("%d", k);
        }
        k = 0 ;
        printf ("\n");
    } getch ();
}
```

6.

```c
#include <stdio.h>
#include <conio.h>
void main ()
{
int i, j, k = 0;

for (i=1 ; i<=3 ; i++)
{
    for (j=1 ; j<= (3-i) ; j++)
    {
        printf ("  ");
    }
    while (k< ( (2*i)-1)
    {
    k++ ;
    printf (" %. d", i);
    }
    printf (" \n");
}
getch ();
}
```

8. WAP array = shorting in ascending.

```c
#include <stdio.h>
#include <conio.h>
void main ()
{
    int i, j, a, ar[10];
    printf ("Enter array");
    for (i=0 ; i<10 ; i++)
    {
    scanf ("%d" & ar[i]);
    }
    for (i=0 ; i<10 ; i++)
    {
    for (j=i+1 ; j<n; i++)
    {
    if (ar[i] > ar[j])
    {
        a = ar[i];
        ar[i] = ar[j];
        ar[j] = a;
    }
    }
    }

    printf ("Acending order = \n");
    for (i=0 ; i<10 ; i++)
    {
    printf (" %d \n" & ar[i]);
    }
    getch ();
}
```

```c
# include <stdio.h>
# include <conio.h>
void main ()
{
    int a[s], i, j, g=0,s=0;

    for (i=0; i<s; i++)

    { scanf ("%d" & a[i]);

    {  g = a[0];
    for (i=0; i<s; i++)
    {  if (g< a[i])

    {
            g = a[i]
    }}

    if (s > a[i])
    {
        s = a[i];
    }
    }
    }

    printf (" greatest = %d  and smallest=%d" g,s);
    getch();
}
```

2.

```c
#include <stdio.h>
#include <conio.h>
void main ()
{
    int a[6], i, l1, l2;
    printf ("Enter array ");
    for (i=0; i<6; i++)
    {   scanf ("%d" & a[i]);
    }

    l1 = a[0]; l2 = a[0];
    for (i=0; i<6; i++).

    { if (a[i] > l1)
    { l1 = a[i];
    }}

    for (i=1; i<6; i++)
    { if (a[i] > l2 && a[i] < l1)
    { l2 = a[i];
    }
    }

    printf (" Second largest =%d" l2);
    getch();
}
```

```c
# include    <stdio.h>
# include    <conio.h>
void main ()
{
int a[10], b[10], i ;
printf (" Enter the numbers for array ");

for (i=0 ; i<10 ; i++)
{
scanf ("%d" & a[i] );
}


for (i=0; i<10 ; i++) {
{
b[i] = a[i];

}


printf (" Coyped array : \n ");
for (i=0 ; i<10 ;i++)
{
printf ("% d", b[i] );

}

getch ();
{
```

4.

```c
#include <stdlib.h>
#include <conio.h>
void main()
{
    int a[5], b[5], c[10], i;
    printf("Enter the first list of arrays");

    for(i=0; i<5; i++)

    {   scanf("%d", &a[i]);

    {   printf("Enter the second list of array");
        for(i=0; i<5; i++)

    {   scanf("%d", &b[i]);

    }

    for(i=0; i<5; i++)

    {   c[i] = a[i];
        c[i+5] = b[i];

    }

    printf("The final merged list :");
    for(i=0; i<10; i++)

    {   printf("%d", c[i]);

    }   getch();
    }
```

$$a[o] \Leftarrow a[3]$$
$$a[o] == a[4]$$

2.

```c
# include <stdio.h>
# include <conio.h>
void main()
{
    int a[10], i, j, n=0;
    clrscr();
    for(i=0; i<10; i++)
    {
        scanf("%d", & a[i]);
    }

    for(i=0; i<10; i++)
    {
        for(j=i+1; j<10; j++)
        {
            if(a[i] == a[j])
            { n++;
            }
        }
    }

    if(n!=0)
    { printf("%d", a[i]);
    } n=0;
    } getch();
}
```

```c
3.  # include <stdio.h>
    # include <conio.h>
    void main ()
    {
    int a[10], i, j, n=0;
    clrscr();
    for (i = 0; i<10; i++)
    {
    scanf ("%d", &a[i]);
    }


    for (i = 0; i<10; i++)
    { for (j=i+1; j<10; j++)
    {
    if (a[i] == a[j])
    { n++;
    {
    }
    printf ("Element = %d and frequency=%d",
                          a[i], n);
    n = 0;
    }
    getch ();
    {
    }
```

```
4.    # include <stdio.h>
      # include <conio.h>
      void main ()
      {
        int a[10], B[10], o[10], i, b=0, c=0;
        for ( i=0 ;  i<10 ; i++)
        { scanf ("%d", & a[i]);
        }

      for (i=0 ; i<10; i++)
      {

          if (a[i] %2 == 0 )
          { e[b] = a[i];
            b++;
          }

          else {
          }
            o[c] = a[i];
            c++;
          }

          }

          } printf ("Even");
          for (i=0 ; i<10 ; i++)
          { printf ("Even") - printf ("%d", e[i]
          }
```

```c
        printf (" Oald ");
    for (i=0; i<10 ; i++)
    {  printf ("%d", O[i]);
    }

    getch();
}
```

5.
```c
#include <stdio.h>
#include <conio.h>
void main ()
{
    int a[10], b, n,x;
    printf (" Enter Array");
    for (u=0; u<5; u++)
    {  scanf (" %d" & a[u]);}
    printf (" Enter the position");
    scanf (" %d", &n);
    printf (" Enter the new value");       for (x=6; x<=n; x--)
    scanf (" %d" & b);                      {
                                                a[x] = a[n-1];
    printf (" Auay list");                  }
    for (u= 0; u<10; u++)                      a[n] = b;
    {  printf (" %d", a[u]);
    }

    getch();
}
```