```c
/*addition of n no by using factorial and recursion*/
#include<stdio.h>
int fact(int);
int main()
{
        int p,n;
        printf("enter the value of n\n");
        scanf("%d",&n);
        p=fact(n);
        printf("the result:%d",p);
        return 0;
}
int fact(int x)
{
        if(x==0||x==1)
         return x;
         else
         return x+fact(x-1);
}
/*even no using function*/
#include<stdio.h>
int even(int);
int main()
{
        int n,k;
        printf("enter the value n\n");
        scanf("%d",&n);
        k=even(n);
        if(k==2)
        printf("even no");
        else
```

```c
        printf("not even no");

        return 0;n

}

int even(int x)

{

        if(x%2==0)

        return 2;

        else

        return 1;


}
```

/*pattern printing 3*/

```c
#include<stdio.h>

int main()

{

        int i,j,k;

        for(i=0;i<3;i++)

        {

                for(j=0;j<2*(2-i);j++)

                printf(" ");

                for(k=0;k<2*i+1;k++)

                printf("*");


                printf("\n");

        }

        return 0;

}
```

/*pattern printing 3 even star */

```c
#include<stdio.h>

int main()

{
```

```c
        int i,j,k,n;
        printf("enter the value of n\n");
        scanf("%d",&n);
        for(i=0;i<n;i++)
        {
                for(j=0;j<n-i-1;j++)
                printf(" ");
                for(k=0;k<=i;k++)
                printf("*");

                printf("\n");
        }
        return 0;
}
/*fivonacci series*/
#include<stdio.h>
int fibo(int);
int main()
{
        int n,p;
        printf("enter the value of n\n");
        scanf("%d",&n);
        p=fibo(n);
        printf("the result :%d",p);
        return 0;


}
int fibo(int x)
{
        if(x==0||x==1)
        return x;
```

```c
        else
        return (fibo(x-1)+fibo(x-2));
}
/* pattern printing 1*/
#include<stdio.h>
int main()
{
        int n,i,j;
        printf("enter the value of n\n");
        scanf("%d",&n);
        for(i=0;i<n;i++)
        {
                for(j=0;j<n-i;j++)
                printf("* ");

                printf("\n");

        }
        return 0;
}
/*gcd*/
#include<stdio.h>
int main()
{
        int a,b;
        printf("enter two values\n");
        scanf("%d%d",&a,&b);
        while(a!=b)
        {
                if(a>b)
                a=a-b;
```

```c
                else

                    b=b-a;

        }

        printf(" the gcd :%d",a);

        return 0;

}
/*pattern printing 4 even  no of stars*/

#include<stdio.h>

int main()

{

        int i,j,k;

        for(i=0;i<3;i++)

        {

                for(j=0;j<2-i;j++)

                printf(" ");

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

                printf("* ");


                printf("\n");

        }

        return 0;

}
/*lcm*/

#include<stdio.h>

int main()

{

        int a,b,a1,b1,lcm;

        printf("enter two values\n");

        scanf("%d%d",&a,&b);

        a1=a;

        b1=b;
```

```c
		while(a!=b)
		{
			if(a>b)
			a=a-b;
			else
			b=b-a;
		}
		printf(" the gcd :%d",a);
		lcm=(a1*b1)/a;
		printf(" the lcm :%d",lcm);
		return 0;
}
/*pattern printing 4 even  no of stars*/
#include<stdio.h>
int main()
{
		int i,j,k;
		for(i=0;i<3;i++)
		{
			for(j=0;j<2*(2-i);j++)
			printf(" ");
			for(k=0;k<i+1;k++)
			printf("* ");

			printf("\n");
		}
		return 0;
}
/*gcd using recurtion*/
#include<stdio.h>
int gcd(int,int);
```

```c
int main()
{
        int x,y,p;
        printf("enter two values\n");
        scanf("%d%d",&x,&y);
        p=gcd(x,y);
        printf("gcd of %d and %d :%d",x,y,p);
        return 0;
}
int gcd(int a,int b)
{
        if(b!=0)
        return (b,a%b);
        else
        return a;

}
/*pattern printing 2 odd no of stars*/
#include<stdio.h>
int main()
{
        int i,j,k;
        for(i=0;i<3;i++)
        {
                for(j=0;j<2-i;j++)
                printf(" ");
                for(k=0;k<2*i+1;k++)
                printf("*");

                printf("\n");
        }
```

```c
        return 0;
}
/*diamond without space*/
#include<stdio.h>
int main()
{
        int i,j,k;
        for(i=0;i<3;i++)
        {
                for(j=0;j<2-i;j++)
                printf(" ");
                for(k=0;k<2*i+1;k++)
                printf("*");

                printf("\n");
        }
  {
        for(i=2;i>0;i--)
        {
                for(j=0;j<3-i;j++)
                printf(" ");
                for(k=0;k<2*i-1;k++)
                printf("*");

                printf("\n");
        }
           return 0;
   }
}
/*pattern printing 3 even star */
#include<stdio.h>
```

```c
int main()
{
        int i,j,k,n;
        printf("enter the value of n\n");
        scanf("%d",&n);
        for(i=0;i<n;i++)
        {
                for(j=0;j<n-i-1;j++)
                printf(" ");
                for(k=0;k<=i;k++)
                printf("* ");


                printf("\n");
        }
        return 0;
}
/*diamond with space*/
#include<stdio.h>
int main()
{
        int i,j,k;
        for(i=0;i<3;i++)
        {
                for(j=0;j<2*(2-i);j++)
                printf(" ");
                for(k=0;k<2*i+1;k++)
                printf("* ");


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

```c
        for(i=2;i>0;i--)
        {
                for(j=0;j<2*(3-i);j++)
                printf(" ");
                for(k=0;k<2*i-1;k++)
                printf("* ");


                printf("\n");
         }
           return 0;
   }
}
/*pattern printing 4 even  no of stars*/
#include<stdio.h>
int main()
{
        int i,j,k;
        for(i=0;i<3;i++)
        {
                for(j=0;j<2-i;j++)
                printf(" ");
                for(k=0;k<i+1;k++)
                printf("* ");

                printf("\n");
        }
        return 0;
}
/*pattern printing 2 odd no of stars with space*/
#include<stdio.h>
int main()
```

```c
{
    int i,j,k;
    for(i=0;i<3;i++)
    {
        for(j=0;j<2*(2-i);j++)
        printf(" ");
        for(k=0;k<2*i+1;k++)
        printf("* ");

        printf("\n");
    }
    return 0;
}
```