

2023



PATTERN

CYBER TRON

C++



(PATTERN)

T.I.M. HAMIM

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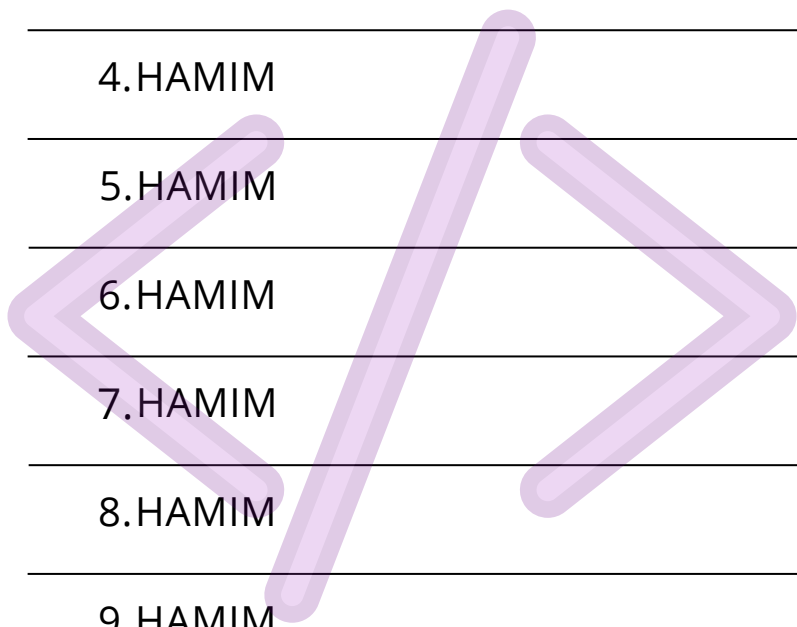
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1. pattern

Art something is called pattern in programming.

- **Make a program that will show given bellow:**

```
#include<stdio.h>
void main()
{
    int i,j;
    for(i=0;i<5;i++) /* outer loop */
    {
        for(j=0;j<5;j++) /* inner loop*/
        {
            printf("*");
        }
        printf("\n");
    }
}
```

- **Make a program that will print given bellow:
Enter last finishing number : 5**

*** * * * ***

*** * * ***

*** * ***

*** ***

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

```
int main()
```

```
{
```

```
    int i,j,sum=0,n;
```

```
    printf("Enter last finishing number : ");
```

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

```
    for(i=n;i>=1;i--){
```

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

```
            printf("* ");
```

```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```

- **Make a program that will print given bellow:**
Enter total line : 5

* * * * *

 * * * *

 * * *

 * *

 *

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        for(j=1;j<=i;j++){
            printf(" ");
        }
        for(j=1;j<=n;j++){
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```

```
or,  
#include<stdio.h>  
int main()  
{  
    int i,j,sum=0,n,k;  
    printf("Enter total line : ");  
    scanf("%d",&n);  
    for(i=n,k=0;i>=1;i--,k=k+2){  
        for(j=1;j<=k;j++){  
            printf(" ");  
        }  
        for(j=i;j>=1;j--){  
            printf("* ");  
        }  
        printf("\n");  
    }  
    return 0;  
}
```

- **Make a program that will print given bellow:**

Enter total line : 5

*** * * * ***

*** * * ***

*** * ***

*** ***

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

```
int main()
```

```
{
```

```
int i,j,sum=0,n,k;
```

```
printf("Enter total line : ");
```

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

```
for(i=n,k=1;i>=1;i--,k++){
```

```
for(j=1;j<=(i-1)*2;j++){
```

```
printf(" ");
```

```
}
```

```
for(j=i;j>=1;j--){
```

```
printf("* ");
```

```
}
```

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

```
}
```

```
return 0;
```

```
}
```

- **Make a program that will print given bellow:
Enter last finishing number : 5**

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

```
#include<stdio.h>  
int main()  
{  
    int i,j,sum=0,n;  
    printf("Enter last finishing number : ");  
    scanf("%d",&n);  
    for(i=1;i<=n;i++){  
        for(j=1;j<=i;j++){  
            printf("* ");  
        }  
        printf("\n");  
    }  
    return 0;  
}
```


- **Make a program that will print given bellow:
Enter last finishing number : 5**

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

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=n;i>=1;i--){
        for(j=1;j<=(i-1)*2;j++){

            printf(" ");
        }
        for(j=n;j>=i;j--){
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```

```
or,  
#include<stdio.h>  
int main()  
{  
    int i,j,sum=0,n,k;  
    printf("Enter total line : ");  
    scanf("%d",&n);  
    for(i=n,k=1;i>=1;i--,k++){  
        for(j=1;j<=(i-1)*2;j++){  
  
            printf(" ");  
        }  
        for(j=1;j<=k;j++){  
            printf("* ");  
        }  
        printf("\n");  
    }  
    return 0;  
}
```

- **Make a program that will print given bellow:**
Enter total line : 7

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

```
#include<stdio.h>
int main()
{
    int i,j,sum=0,n,k,p;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        for(j=i;j<=n;j++){

            printf(" ");
        }
        for(j=1;j<=i+(i-1);j++){
            printf("*");
        }
        printf("\n");
        p=k;
    }
    return 0;
}
```

```
or,  
#include<stdio.h>  
int main()  
{  
    int i,j,sum=0,n,k;  
    printf("Enter total line : ");  
    scanf("%d",&n);  
    for(i=n,k=1;i>=1;i--,k=k+2){  
        for(j=1;j<i;j++){  
  
            printf(" ");  
        }  
        for(j=1;j<=k;j++){  
            printf("*");  
        }  
        printf("\n");  
    }  
    return 0;  
}
```

- Make a program that will print given bellow:

Enter total line : 7

```
#include<stdio.h>
int main()
{
    int i,j,sum=0,n,k,p;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=n;i>=1;i--){
        for(j=1;j<=n-i;j++){

            printf(" ");
        }
        for(j=1;j<=i+(i-1);j++){
            printf("*");
        }
        printf("\n");
    }
    return 0;
}
```

- **Make a program that will print given bellow:**
Enter total line : 5

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

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=n;i>=1;i--){
        for(j=1;j<i;j++){

            printf(" ");
        }
        for(j=i;j<=n;j++){
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```

```
or,  
#include<stdio.h>  
int main()  
{  
    int i,j,n,k;  
    printf("Enter total line : ");  
    scanf("%d",&n);  
    for(i=n,k=1;i>=1;i--,k=(k+2)-1){  
        for(j=1;j<i;j++){  
  
            printf(" ");  
        }  
        for(j=1;j<=k;j++){  
            printf("* ");  
        }  
        printf("\n");  
    }  
    return 0;  
}
```

- Make a program that will print given bellow:

Enter total line : 5

*** * * * ***

*** * * ***

*** * ***

*** ***

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=n;i>=1;i--){
        for(j=1;j<=n-i;j++){

            printf(" ");
        }
        for(j=1;j<=i;j++){
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```


- **Make a program that will print given bellow:**
Enter total line : 7

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

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        for(j=n;j>i;j--){

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

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

```
or,  
#include<stdio.h>  
int main()  
{  
    int i,j,n;  
    printf("Enter total line : ");  
    scanf("%d",&n);  
    for(i=n;i>=1;i--){  
        for(j=1;j<i;j++){  
  
            printf(" ");  
        }  
        for(j=i;j<=n;j++){  
            printf("* ");  
        }  
        printf("\n");  
    }  
    for(i=n-1;i>=1;i--){  
        for(j=1;j<=n-i;j++){  
  
            printf(" ");  
        }  
        for(j=1;j<=i;j++){  
            printf("* ");  
        }  
        printf("\n");  
    }  
    return 0;  
}
```

```
or,  
#include<stdio.h>  
int main()  
{  
    int i,j,n;  
    printf("Enter the number do you want:");  
    scanf("%d",&n);  
  
    for(i=1;i<=n;i++){  
        for(j=1;j<=n-i;j++){  
            printf(" ");  
        }  
        for(j=1;j<=i;j++){  
            printf("* ");  
        }  
        printf("\n");  
    }  
    for(i=n-1;i>=1;i--){  
        for(j=1;j<=n-i;j++){  
            {  
                printf(" ");  
            }  
            for(j=1;j<=i;j++){  
                printf("* ");  
            }  
            printf("\n");  
        }  
        return 0;  
    }  
}
```

- **Make a program that will print given bellow:**
Enter total line : 7

```

      *
    ***
  *****
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****

```

```
#include<stdio.h>

int main()

{
    int i,j,n;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        for(j=i;j<n;j++){

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

```

for(i=n-1;i>=1;i--){
    for(j=1;j<=n-i;j++){

        printf(" ");
    }
    for(j=1;j<=i+(i-1);j++){
        printf("*");
    }
    printf("\n");
}
return 0;
}

```

or,

```

#include<stdio.h>
int main()
{
    int i,j,n,k;
    printf("Input : ");
    scanf("%d",&n);
    char a[2*n-1][2*n-1];
    char c=' ',b='*';
    for(i=0;i<2*n-1;i++){
        for(j=0;j<2*n-1;j++){
            if(j>=(n-1)-i && j<=(n-1)+i && i<n || j>=i-(n-1)
&& j<=3*(n-1)-i && i>n-1){
                a[i][j]=b;
            }
            else
                a[i][j]=c;
        }
    }
}

```

```
}  
}  
for(i=0;i<2*n-1;i++){  
    for(j=0;j<2*n-1;j++){  
        printf("%c",a[i][j]);  
    }  
    printf("\n");  
}  
return 0;  
}
```

- **Make a program that will print given bellow:**
Enter total line : 5

*** * * * ***

*** * * * ***

*** * * * ***

*** * * * ***

*** * * * ***

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++){
        for(j=1;j<=i;j++){
            printf(" ");
        }
        for(j=1;j<=n;j++){
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```


- **Make a program that will print given bellow:**

Input : 5

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

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Input : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++){

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

            printf(" ");
        }
    }
}
```

```
for(j=1;j<=i;j++){  
    printf("*");  
}  
printf("\n");  
}  
return 0;  
}
```

- Make a program that will print given bellow:

Input : 5

```
$ @ @ @ @
# $ @ @ @
# # $ @ @
# # # $ @
# # # # $
```

```
#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Input : ");
    scanf("%d",&n);
    char a[n][n];
    char c='$',b='@',d='#';
    for(i=0;i<n;i++){
        for(j=0;j<n;j++){
            if(i==j){
                a[i][j]=c;
            }
            if(i<j){
                a[i][j]=b;
            }
            if(i>j){
                a[i][j]=d;
            }
        }
    }
    for(i=0;i<n;i++){
```

```

for(j=0;j<n;j++){
    printf("%c ",a[i][j]);
}
printf("\n");
}
return 0;
}

```

- **Make a program that will print given bellow:**

Input : 5

```

    @ @ @ @
#   @ @ @
#  #   @ @
#  #  #   @
#  #  #  #

```

```

#include<stdio.h>
int main()
{
    int i,j,n;
    printf("Input : ");
    scanf("%d",&n);
    char a[n][n];
    char c=' ',b='@',d='#';
    for(i=0;i<n;i++){
        for(j=0;j<n;j++){
            if(i==j){
                a[i][j]=c;
            }
            if(i<j){

```

```

a[i][j]=b;
    }
    if(i>j){
        a[i][j]=d;
    }
}
}
for(i=0;i<n;i++){
for(j=0;j<n;j++){
printf("%c ",a[i][j]);
}
printf("\n");
}
return 0;
}

```

- **Make a program that will print given bellow:**

Input : 5

```

# # # # # # # #
# # #     # # #
# #       # #
#         #

```

```

#         #
# #       # #
# # #     # # #
# # # #   # # # #

```

```

#include<stdio.h>
int main()
{
    int i,j,n,k;
    printf("Input : ");
    scanf("%d",&n);
    char a[2*n-1][2*n-1];
    char c='#',b=' ';
    for(i=0;i<2*n-1;i++){
        for(j=0;j<2*n-1;j++){
            if(j>=(n-1)-i && j<=(n-1)+i && i<n || j>=i-(n-
1) && j<=3*(n-1)-i && i>n-1){
                a[i][j]=b;
            }
            else
                a[i][j]=c;
        }
    }
    for(i=0;i<2*n-1;i++){
        for(j=0;j<2*n-1;j++){
            printf("%c ",a[i][j]);
        }
        printf("\n");
    }
    return 0;
}

```

- Make a program that will print given bellow:

Enter total line : 5

```

      *           *
    ***         ***
  *****       *****
*****          *****
*****          *****
*****          *****
  *****       *****
    ***         ***
      *           *

```

```

#include<stdio.h>
int main()
{
    int i,j,n,k,l;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=1,k=2*n-1;i<=n;i++,k=k-2){
        for(j=i;j<n;j++){

            printf(" ");
        }
        for(j=1;j<=2*i-1;j++){
            printf("*");
        }
        for(j=1;j<k;j++){
            printf(" ");
        }
        for(j=1;j<=2*i-1;j++){
            printf("*");
        }
    }
}

```

```

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

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

```


- Make a program that will print given bellow:

Enter total line : 5

```

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

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

```
int main()
```

```
{
```

```
    int i,j,n,k,l;
```

```
    printf("Enter total line : ");
```

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

```
    for(i=1,k=2*n;i<=n;i++,k=k-2){
```

```
        for(j=i;j<n;j++){
```

```
            printf(" ");
```

```
        }
```

```
        for(j=1;j<=2*i-1;j++){
```

```
            printf("*");
```

```
        }
```

```
        for(j=1;j<k;j++){
```

```
            printf(" ");
```

```
        }
```

```
        for(j=1;j<=2*i-1;j++){
```

```

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

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

```

- **Make a program that will print given bellow:**
Enter total line : 7

[illegible]

```
#include<stdio.h>
int main()
{
    int i,j,n,k,l;
    printf("Enter total line : ");
    scanf("%d",&n);
    for(i=1,k=2*n;i<=n;i++,k=k-2){
        for(j=i;j<n;j++){
            printf(" ");
        }
        for(j=1;j<=2*i-1;j++){
            printf("*");
        }
        for(j=1;j<k;j++){
            printf(" ");
        }
        for(j=1;j<=2*i-1;j++){
            printf("*");
        }
        printf("\n");
    }
    return 0;
}
```

- Make a program that will print given bellow:

Input: 5

```

    *      *
  ***    ***
*****
  ***    ***
    *      *

```

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

```
int main()
```

```
{
```

```
    int i,j,n,k,l;
```

```
    printf("Input: ");
```

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

```
    n=n-2;
```

```
    for(i=1,k=2*n-1;i<=n;i++,k=k-2){
```

```
        for(j=i;j<n;j++){
```

```
            printf(" ");
```

```
        }
```

```
        for(j=1;j<=2*i-1;j++){
```

```
            printf("*");
```

```
        }
```

```
        for(j=1;j<k;j++){
```

```
            printf(" ");
```

```
        }
```

```
        for(j=1;j<=2*i-1;j++){
```

```
            printf("*");
```

```
        }
```

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

```
}
```

```
for(i=n-1,k=2;i>=1;k++,i--){
    for(j=1;j<=n-i;j++){

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

- **Make a program that will print given bellow:**

Enter input : 5

@@@@@

@@@

@

@@@

@@@@@

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

```
int main()
```

```
{
```

```
int n,i,j,k;
```

```
printf("Enter input : ");
```

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

```
while(n%2==0){
```

```
printf("Incorrect input. Please, give odd number  
: ");
```

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

```
}
```

```
char x[n][n];
```

```
char a='?',b='@',c=' ';
```

```
for(i=0,k=n-1;i<n;i++,k--){
```

```
for(j=0;j<n;j++){
```

```
if(i<=j && k>=j || i>=j && k<=j){
```

```
x[i][j]=b;
```

```
}
```

```
else
```

```
x[i][j]=c;
```

```
}
```

```
}
```

```
for(i=0,k=n-1;i<n;i++,k--){  
    for(j=0;j<n;j++){  
        printf("%c",x[i][j]);  
    }  
    printf("\n");  
}  
}
```

- Make a program that will print given bellow:

Enter input : 5

```
@    @
  @  @
    ?
  @  @
@    @
```

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

```
int main()
```

```
{
```

```
int n,i,j,k;
```

```
printf("Enter input : ");
```

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

```
while(n%2==0){
```

```
    printf("Incorrect input. Plese, give odd number  
: ");
```

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

```
}
```

```
char x[n][n];
```

```
char a='?',b='@',c=' ';
```

```
for(i=0,k=n-1;i<n;i++,k--){
```

```
    for(j=0;j<n;j++){
```

```
        if(i==j && i!=k || k==j && i!=k ){
```

```
            x[i][j]=b;
```

```
        }
```

```
        else if(i==j && i==k){
```

```
            x[i][j]=a;
```

```
        }
```



```

else
    x[i][j]=c;
}
}
for(i=0,k=n-1;i<n;i++,k--){
    for(j=0;j<n;j++){
        printf("%c",x[i][j]);
    }
    printf("\n");
}
}

```

- **Make a program that will print given bellow:**

Enter input : 8

Incorrect input. Please, give odd number : 7

```

@   @
@   @
@  @
   @
@  @
@  @
@   @

```

```

#include<stdio.h>
int main()
{
    int n,i,j,k;
    printf("Enter input : ");
    scanf("%d",&n);
    while(n%2==0){
        printf("Incorrect input. Plese, give odd number
: ");
        scanf("%d",&n);
    }
    char x[n][n];
    char a='?',b='@',c=' ';
    for(i=0,k=n-1;i<n;i++,k--){
        for(j=0;j<n;j++){
            if(i==j || k==j){
                x[i][j]=b;
            }
            else
                x[i][j]=c;
        }
    }
    for(i=0,k=n-1;i<n;i++,k--){
        for(j=0;j<n;j++){
            printf("%c",x[i][j]);
        }
        printf("\n");
    }
}

```

- Make a program that will print given bellow:

Enter input : 5

```
#           &
&&        ##
###       &&&
&&&&     ####
#####&&&&&
```

```
#include<stdio.h>
int main()
{
    int n,i,j,k;
    printf("Enter input : ");
    scanf("%d",&n);
    char x[n][2*n];
    char a='&',b='#',c='#',d=' ';
    for(i=0,k=2*n-1;i<n;i++,k--){
        for(j=0;j<2*n;j++){
            if(i<j && k>j){
                x[i][j]=d;
            }
            else if(j<n && (i%2!=0)){
                x[i][j]=a;
            }
            else if(j>=n && (i%2==0)){
                x[i][j]=a;
            }
            else
                x[i][j]=c;
        }
    }
}
```

```

for(i=0,k=2*n-1;i<n;i++,k--){
    for(j=0;j<2*n;j++){
        printf("%c",x[i][j]);
    }
    printf("\n");
}
}

```

- Make a program that will print given bellow:

5

```

@ @ @ @ @
@ @   @ @
@   @   @
@ @   @ @
@ @ @ @ @

```

```

//Number 7 :
#include<stdio.h>
int main()
{
    int n,i,j,k;
    scanf("%d",&n);
    while(n%2==0){
        printf("Incorrect input. Please, give odd number :
");
        scanf("%d",&n);
    }
    char x[n][n];
    char a='@',b=' ';
    for(i=0,k=n-1;i<n;i++,k--){
        for(j=0;j<n;j++){
            if(i==(n-1)/2 && j==((n-1)/2)-1 || i==(n-1)/2 &&
j==((n-1)/2)+1 || i==((n-1)/2)-1 && j==(n-1)/2 || i==
((n-1)/2)+1 && j==(n-1)/2)
                x[i][j]=b;
            else
                x[i][j]=a;
        }
    }
    for(i=0,k=n-1;i<n;i++,k--){
        for(j=0;j<n;j++){
            printf("%c ",x[i][j]);
        }
        printf("\n");
    }
}

```

- **Make a program that will print given bellow:**

```
#include<stdio.h>
int main()
{
    int i,j,k,l,n=10;
    char a[12][33],h='*',b=' ';
    for(i=0;i<12;i++){
        for(j=0;j<17;j++){
            if(i<3 && j>=(n-8)-i && j<=(n-5)+i){
                a[i][j]=h;
            }
            else if(i<3 && j>=(n+1)-i && j<=(n+4)+i){
                a[i][j]=h;
            }
            else if(i>2 && j>=i-3 && j<=19-i){
                a[i][j]=h;
            }
            else
                a[i][j]=b;
        }
    }
}
```

```
}  
}  
for(i=0;i<12;i++){  
    for(j=0;j<17;j++){  
        printf("%c",a[i][j]);  
    }  
    printf("\n");  
}  
return 0;  
}
```

- Make a program that will print given bellow:

```

      * * * *           * * * *
    * * * * * *       * * * * * *
  * * * * * * * * *   * * * * * * * *
* * * * * * * * * * * * * * * * * *
* * * * * * * * * * * * * * * *
  * * * * * * * * * * * * * * *
    * * * * * * * * * * * * *
      * * * * * * * * * * *
        * * * * * * * *
          * * * * *
            * * *
              *

```

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

```
int main()
```

```
{
```

```
int i,j,k,l,n=10;
```

```
char a[12][33],h='*',b=' ';
```

```
for(i=0;i<12;i++){
```

```
for(j=0;j<17;j++){
```

```
if(i<3 && j>=(n-8)-i && j<=(n-5)+i){
```

```
a[i][j]=h;
```

```
}
```

```
else if(i<3 && j>=(n+1)-i && j<=(n+4)+i){
```

```
a[i][j]=h;
```

```
}
```

```
else if(i>2 && j>=i-3 && j<=19-i){
```

```
a[i][j]=h;
```

```
}
```

```
else
```

```
a[i][j]=b;
```



```
    }  
}  
for(i=0;i<12;i++){  
    for(j=0;j<17;j++){  
        printf("%c ",a[i][j]);  
    }  
    printf("\n");  
}  
return 0;  
}
```



```

}
else
love[i][j]=b;
}
}
for(i=0;i<13;i++){
for(j=0;j<31;j++){
printf("%c",love[i][j]);
}
printf("\n");
}
return 0;
}

```

```

or,
#include<stdio.h>
int main()
{
int i,j,k,n=10;
for(i=0,k=0;i<13;i++,k=k+2){
if(i==5){
k=k-1;
}
for(j=0;j<31;j++){
if(i<3 && ((j>=(n-7)-k && j<=(n-1)+k) || (j>=
(2*n+1)-k && j<=(2*n+7)+k))){
printf("*");
}
else if(i>2 && (j>=k-7 && j<=37-k) || (i==12
&& j==15 )){
printf("*");
}
}
}

```

```

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

or,
#include<stdio.h>
int main()
{
    int i,j,k;
    for(i=0,k=0;i<13;i++,k=k+2){
        if(i==5){
            k=k-1;
        }
        for(j=0;j<31;j++){
            if(i<3 && ((j>=3-k && j<=9+k) || (j>=21-k &&
j<=27+k))){
                printf("v");
            }
            else if(i>2 && (j>=k-7 && j<=37-k) || (i==12 &&
j==15 )){
                printf("v");
            }
            else
                printf(" ");
        }
        printf("\n");
    }
    return 0;
}

```



```

#include<stdio.h>
#include<string.h>
int main()
{
    int i,j,k,n=10,d,z;
    char Love[13][31],l_u[13]
[31],star='*',special_character,blank='
',Lover_name[20],Your_name[20];
    printf("Enter your crush name : ");
    gets(Lover_name);
    printf("Enter your name : ");
    gets(Your_name);
    printf("Enter your special letter/digit : ");
    scanf("%c",&special_character);
    printf("\n\n");
    int s,l,c,p,m,g;
    s=strlen(Lover_name);
    l=strlen(Your_name);
    c=15-(s/2);
    p=c+s;
    m=15-(l/2);
    g=m+l;
    for(i=0,k=0;i<13;i++,k=k+2){
        if(i==5){
            k=k-1;
        }
        for(j=0;j<31;j++){
            if(i==4 && j>=c && j<p){
                Love[i][c-1]=blank;
                for(d=0,j=c; Lover_name[d]!='\0';d++,j++){
                    Love[i][j]=Lover_name[d];
                }
            }
        }
    }
}

```

```

        if(Lover_name[d+1]=='\0'){
            Love[i][j+1]=blank;
        }
    }
}
else if(i==6 && j>=m && j<g){
    Love[i][m-1]=blank;
    for(d=0,j=m; Your_name[d]!='\0';d++,j++){
        Love[i][j]=Your_name[d];
        if(Lover_name[d+1]=='\0'){
            Love[i][j+1]=blank;
        }
    }
    else
        Love[i][j+1]=blank;
}
}
else if(i<3 && ((j>=(n-7)-k && j<=(n-1)+k) ||
(j>=(2*n+1)-k && j<=(2*n+7)+k))){
    Love[i][j]=special_character;
}
else if(i>2 && j>=k-7 && j<=37-k || i==12 &&
j==15 ){
    Love[5][14]=blank;
    Love[5][16]=blank;
    if(i==5 && j==15){
        Love[i][j]='+';
    }
    else
        Love[i][j]=special_character;
}
else

```

```

        Love[i][j]=blank;
    }
}
for(i=0;i<13;i++){
    for(z=0;z<31;z++){
        if((i<2 || i>10) && z>=0 && z<=7){
            l_U[i][z]=star;
        }
        else if(i>1 && i<11 && z>=2 && z<=5){
            l_U[i][z]=star;
        }
        else if((i>=0 && i<=10) && (z>=8 && z<=11 ||
z>=24 && z<=27)){
            l_U[i][z]=star;
        }
        else if(i==11 && (z>=8 && z<=27) || i==12
&& (z>=9 && z<=26)){
            l_U[i][z]=star;
        }
        else
            l_U[i][z]=blank;
    }
}
for(i=0;i<13;i++){
    z=0;
    while(z<8){
        printf("%c",l_U[i][z]);
        z++;
    }
    if(z==8){
        printf("\t");
    }
}

```



```
j=0;
while(j<31){
    printf("%c",Love[i][j]);
    j++;
}
if(j==31){
    printf("\t\t");
}
while(z<31){
    printf("%c",I_U[i][z]);
    z++;
}
printf("\n");
}
printf("\n");
return 0;
}
```

- **Make a movable Love:**

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

```
void Love(){
    for (;;) {
        printf("\033[H\033[2J");
        int a = 27, n = 0, l = 0, m=10;
        for (int i=0,k=0;i<13;i++,k=k+2) {
            for (int t = 1; t <= l; t++) {
                printf(" ");
            }
            if(i==5){
                k=k-1;
            }
            for (int j=0;j<31;j++) {
                if(i<3 && ((j>=(m-7)-k && j<=(m-1)+k) ||
(j>=(2*m+1)-k && j<=(2*m+7)+k))){
                    printf("*");
                }
                else if(i>2 && (j>=k-7 && j<=37-k) ||
(i==12 && j==15 )){
                    printf("*");
                }
                else
                    printf(" ");
            }
            printf("\n");
            if (i == 12 && n < a) {
                n++;
            }
        }
    }
}
```

```
        i = -1;
        k=-2;
        l = n * 3;
        usleep(100000);
        printf("\033[H");
    }
}
}
}

int main() {
    Love();
}
```

- Make a program that will print given bellow:
Enter your crash name : Hrdz
Enter your name : Hamim
Enter your favourite letter/digit : .

```

*****          .....          *****
*****
*****          .....          *****
*****
*****          .....          *****          *****
*****          .....          *****          *****
*****          ..... Hrdz .....          *****
*****
*****          ..... + .....          *****
*****
*****          ..... Hamim .....          *****
*****
*****          .....          *****          *****
*****          .....          *****          *****
*****          .....          *****          *****
*****          .....          *****          *****
*****          .....          *****
*****          ...
*****
*****
*****          .
*****

```

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

```
void slowDown(double d){  
    for(double y=.1;y<100000;y=y+d){}  
}
```

```
void l(int l){  
    int i, z;  
    for(i=0;i<13;i++){  
        for (int t = 0; t < l; t++) {  
            printf(" ");  
        }  
        for(z=0;z<8;z++){  
            slowDown(.02);  
            if((i<2 || i>10) && z>=0 && z<=7){  
                printf("*");  
            }  
            else if(i>1 && i<11 && z>=2 && z<=5){  
                printf("*");  
            }  
            else  
                printf(" ");  
        }  
        for(int t=1;t<90;t++){printf(" ");}  
        printf("\n");  
    }  
}
```

```
void Love(int l){  
    int i,j,k,n=10;  
    for(i=0,k=0;i<13;i++,k=i*2){  
        for (int t = 0; t < l; t++) {
```

```

        printf(" ");
    }
    if(i>=5){
        k=k-1;
    }
    for(j=0;j<31;j++){
        slowDown(.05);
        if(i<3 && ((j>=(n-7)-k && j<=(n-1)+k) || (j>=
(2*n+1)-k && j<=(2*n+7)+k))){
            printf("*");
        }
        else if(i>2 && (j>=k-7 && j<=37-k) || (i==12 &&
j==15 )){
            printf("*");
        }
        else
            printf(" ");

    }
    printf("\n");
}
}

```

```

void U(int l){
    int i, z;
    for(i=0;i<13;i++){
        for (int t = 0; t < l; t++) {
            printf(" ");
        }
        for(z=0;z<20;z++){
            slowDown(.04);

```

```

        if((i>=0 && i<=10) && (z>=0 && z<=3 || z>=16 &&
z<=19)){
            printf("*");
        }
        else if(i==11 && (z>=0 && z<=19) || i==12 &&
(z>=1 && z<=18)){
            printf("*");
        }
        else
            printf(" ");
    }
    printf("\n");
}
}

```

```

void I_L_U(){
    for(;;){
        printf("\033[H\033[2J");
        int a = 3, n = 0, l=1;
        for (int i=1;i<=3;i++) {
            if(i==1){
                l(l);
                l = l+12;
            }else if(i==2){
                Love(l);
                l = l+39;
            }else if(i==3){
                U(l);
                l = l+24;
            }
        }
    }
}

```

```
        printf("\033[H");
        if(i==3 && n<=a){
            i=0;
            n++;
            l=n*25;\
            slowDown(.001);
            printf("\033[H");
        }
    }
}

int main() {
    I_L_U();
}
```


- **Make a program that will print given bellow:**

[illegible]

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

```
void slowDown(double d){  
    for(double y=.1;y<100000;y=y+d){}  
}
```

```
void l(int l){  
    int i, z;  
    for(i=0;i<13;i++){  
        for (int t = 0; t < l; t++) {  
            printf(" ");  
        }  
        for(z=0;z<8;z++){  
            slowDown(.02);  
            if((i<2 || i>10) && z>=0 && z<=7){  
                printf("*");  
            }  
            else if(i>1 && i<11 && z>=2 && z<=5){  
                printf("*");  
            }  
            else  
                printf(" ");  
        }  
        for(int t=1;t<65;t++){printf(" ");}  
        printf("\n");  
    }  
}
```

```
void Love(int l){  
    int i,j,k,n=10;  
    for(i=0,k=0;i<13;i++,k=i*2){  
        for (int t = 0; t < l; t++) {
```

```

        printf(" ");
    }
    if(i>=5){
        k=k-1;
    }
    for(j=0;j<31;j++){
        slowDown(.05);
        if(i<3 && ((j>=(n-7)-k && j<=(n-1)+k) || (j>=
(2*n+1)-k && j<=(2*n+7)+k))){
            printf("*");
        }
        else if(i>2 && (j>=k-7 && j<=37-k) || (i==12 &&
j==15 )){
            printf("*");
        }
        else
            printf(" ");

    }
    printf("\n");
}
}

```

```

void U(int l){
    int i, z;
    for(i=0;i<13;i++){
        for (int t = 0; t < l; t++) {
            printf(" ");
        }
        for(z=0;z<20;z++){
            slowDown(.04);

```

```

        if((i>=0 && i<=10) && (z>=0 && z<=3 || z>=16 &&
z<=19)){
            printf("*");
        }
        else if(i==11 && (z>=0 && z<=19) || i==12 &&
(z>=1 && z<=18)){
            printf("*");
        }
        else
            printf(" ");
    }
    printf("\n");
}
}

```

```

void I_L_U(){
    for(;;){
        printf("\033[H\033[2J");
        for (int i=1;i<=3;i++) {
            if(i==1){
                I(30);
            }else if(i==2){
                Love(30+12);
            }else if(i==3){
                U(30+12+39);
            }
        }
        printf("\033[H");
        if(i==3){
            i=0;
            slowDown(.001);
            printf("\033[H");
        }
    }
}

```

```
    }  
  }  
}
```

```
int main() {  
    I_L_U();  
}
```

- **Make a program that will print given bellow:**

[illegible]

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

```
void slowDown(double d){  
    for(double y=.1;y<100000;y=y+d){}  
}
```

```
void l(int i, int l){  
    for( ;i<13;i++){  
        for (int t = 0; t < l; t++) {  
            printf(" ");  
        }  
        for(int z=0;z<8;z++){  
            if((i<2 || i>10) && z>=0 && z<=7){  
                printf("*");  
            }  
            else if(i>1 && i<11 && z>=2 && z<=5){  
                printf("*");  
            }  
            else  
                printf(" ");  
        }  
        break;  
    }  
}
```

```
void Love(int i, int l){  
    int j,k=i*2,n=10;  
    for( ;i<13;i++,k=i*2){  
        for (int t = 0; t < l; t++) {  
            printf(" ");  
        }  
    }  
}
```

```

        for(j=0;j<31;j++){
            if(i<3 && ((j>=(n-7)-k && j<=(n-1)+k) || (j>=
(2*n+1)-k && j<=(2*n+7)+k))){
                printf("*");
            }
            else if(i>2 && (j>=k-7 && j<=37-k) || (i==12 &&
j==15 )){
                printf("*");
            }
            else
                printf(" ");

        }
    }

```

```

void U(int i, int l){
    int z;
    for (int t = 0; t < l; t++) {
        printf(" ");
    }
    for(z=0;z<20;z++){
        if((i>=0 && i<=10) && (z>=0 && z<=3 || z>=16 &&
z<=19)){
            printf("*");
        }
        else if(i==11 && (z>=0 && z<=19) || i==12 && (z>=1
&& z<=18)){
            printf("*");
        }
        else
            printf(" ");
    }
}

```



```

if(i>=5){
k=k-1;
}
for(j=0;j<31;j++){
if(i<3 && ((j>=(n-7)-k && j<=(n-1)+k) || (j>=
(2*n+1)-k && j<=(2*n+7)+k))){
printf("*");
}
else if(i>2 && (j>=k-7 && j<=37-k) || (i==12 &&
j==15 )){
printf("*");
}
else
printf(" ");

}
break;
}
}

```

```

void U(int i, int l){
for( ;i<13;i++){
for (int t = 0; t < l; t++) {
printf(" ");
}
for(int z=0;z<20;z++){
if((i>=0 && i<=10) && (z>=0 && z<=3 || z>=16 &&
z<=19)){
printf("*");
}
}
}

```

```

else if(i==11 && (z>=0 && z<=19) || i==12 && (z>=1 &&
z<=18)){
    printf("*");
}
else
    printf(" ");
}
break;
}
}

```

```

void I_L_U(){
    for(;;){
        printf("\033[H\033[2J");
        for(int i=0; i<13; i++){
            l(i, 4);
            Love(i, 4);
            U(i, 4);
            printf("\n");
            slowDown(.001);
        }
        slowDown(.001);
        printf("\033[H");
    }
}

```

```

int main() {
    I_L_U();
}

```



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

```
void slowDown(double d){  
    for(double y=.1;y<100000;y=y+d){}  
}
```

```
void l(int l, char c){  
    int i, z; // I hate myself but love the devil inside me  
    for(i=0;i<13;i++){  
        for (int t = 0; t < l; t++) {  
            printf(" ");  
        }  
        for(z=0;z<8;z++){  
            slowDown(.02);  
            if((i<2 || i>10) && z>=0 && z<=7){  
                printf("%c", c);  
            }  
            else if(i>1 && i<11 && z>=2 && z<=5){  
                printf("%c", c);  
            }  
            else  
                printf(" ");  
        }  
        for(int t=1;t<65;t++){printf(" ");}  
        printf("\n");  
    }  
}
```

```
void Love(int l, char c){  
    int i,j,k,n=10;
```

```

for(i=0,k=0;i<13;i++,k=i*2){
    for (int t = 0; t < l; t++) {
        printf(" ");
    }
    if(i>=5){
        k=k-1;
    }
    for(j=0;j<31;j++){
        slowDown(.05);
        if(i<3 && ((j>=(n-7)-k && j<=(n-1)+k) || (j>=
(2*n+1)-k && j<=(2*n+7)+k))){
            printf("%c", c);
        }
        else if(i>2 && (j>=k-7 && j<=37-k) || (i==12 &&
j==15 )){
            printf("%c", c);
        }
        else
            printf(" ");

    }
    printf("\n");
}
}

```

```

void U(int l, char c){
    int i, z;
    for(i=0;i<13;i++){
        for (int t = 0; t < l; t++) {
            printf(" ");
        }
    }
}

```

```

    for(z=0;z<20;z++){
        slowDown(.04);
        if((i>=0 && i<=10) && (z>=0 && z<=3 || z>=16 &&
z<=19)){
            printf("%c", c);
        }
        else if(i==11 && (z>=0 && z<=19) || i==12 &&
(z>=1 && z<=18)){
            printf("%c", c);
        }
        else
            printf(" ");
    }
    printf("\n");
}
}

```

```

void I_L_U(){
    for(int h=1;;){
        printf("\033[H\033[2J");
        for (int i=1;i<=3; i++) {
            if(i==1){
                l(30, h);
            }else if(i==2){
                Love(30+12, h);
            }else if(i==3){
                U(30+12+39, h);
            }
        }
        printf("\033[H");
        if(i==3){

```

```
        i=0;h++;
        if(h==255){h=1;}if(h==7){h=h+9;}
        slowDown(.001);
        printf("\033[H");
    }
}
}

int main() {
    I_L_U();
}
```


- ```

 * *
 * *
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 * *
 * *
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 * * * *
 * * * *

```

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

```
void Middle_Finger(){
```

```
 for(int i=1; i<=22; i++){
```

```
 for(int j=1; j<=25; j++){
```

```
 if(i==1&&j>=11&&j<=14 || i==7&&
```

```
(j>=6&&j<=9 || j>=16&&j<=19)
```

```
|| i==11&&j>=3&&j<=5 || i==8&&j>=21&&j<=23 || i==9&&j>=24&&j<=25 || i==12&&j>=1&&j<=2
```

```
|| i==22&&j>=5&&j<=21 || (i>=19&&i<=21)&&
```

```
(j==5 || j==6 || j==20 || j==21)
```

```
|| i==16&&(j==1 || j==2 || j==23 || j==24) || i==17&&
```

```
(j==2 || j==3 || j==22 || j==23)
```

```
|| i==18&&(j==4 || j==5 || j==21 || j==22)){
```

```
 printf("*");
```

```
 }else
```

```
if((j==10 || j==15)&&i>=2&&i<=11 || j==5&&i>=8&&i<=13
```

```
|| j==20&&i>=8&&i<=11 || j==1&&i>=13&&i<=15 || j==25&&i>=10&&i<=15){
```

```
 printf("*");
```

```
 }
```

```
 else{
```

```
 printf(" ");
```

```
 }
```

```
}
```

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

```
}
```

```
}
```

```
int main(){
 Middle_Finger();
}
```

- Make a program that will print given bellow:  
Moveable middle-finger >>>



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

```
void slowDown(double d){
 for(double y=.1;y<100000;y=y+d){}
}
```

```
void Middle_Finger(int n){
 for(int i=1; i<=22; i++){
 for(int t=1;t<=n;t++){
 printf(" ");
 }
 for(int j=1; j<=25; j++){
 if(i==1&&j>=11&&j<=14 | i==7&&
(j>=6&&j<=9 | j>=16&&j<=19)

| i==11&&j>=3&&j<=5 | i==8&&j>=21&&j<=23 | i==9&
&j>=24&&j<=25 | i==12&&j>=1&&j<=2
| i==22&&j>=5&&j<=21 | (i>=19&&i<=21)&&
(j==5 | j==6 | j==20 | j==21)
| i==16&&(j==1 | j==2 | j==23 | j==24) | i==17&&
(j==2 | j==3 | j==22 | j==23)
| i==18&&(j==4 | j==5 | j==21 | j==22)){
 printf("*");
 }else
if((j==10 | j==15)&&i>=2&&i<=11 | j==5&&i>=8&&i<=13

| j==20&&i>=8&&i<=11 | j==1&&i>=13&&i<=15 | j==25
&&i>=10&&i<=15){
 printf("*");
 }
 else{
```

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

```
int main(){
 for(int i=0, k=30, t=0; ;){
 printf("\033[H\033[2J");
 Middle_Finger(t);
 slowDown(.0017);
 if(i<=30){
 t=i+=2;
 }else if(k>=1){
 t=k-=2;
 }else{
 i=1;
 k=30;
 }
 printf("\033[H");
 }
}
```

- Make a program that will print given bellow:  
Moveable middle-finger with "\*" and "." >>>



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

```
void slowDown(double d){
 for(double y=.1;y<100000;y=y+d){}
}
```

```
void Middle_Finger(int n, char c){
 for(int i=1; i<=22; i++){
 for(int t=1;t<=n;t++){
 printf(" ");
 }
 for(int j=1; j<=25; j++){
 if(i==1&&j>=11&&j<=14 | i==7&&
(j>=6&&j<=9 | j>=16&&j<=19)

| i==11&&j>=3&&j<=5 | i==8&&j>=21&&j<=23 | i==9&&
j>=24&&j<=25 | i==12&&j>=1&&j<=2
| i==22&&j>=5&&j<=21 | (i>=19&&i<=21)&&
(j==5 | j==6 | j==20 | j==21)
| i==16&&(j==1 | j==2 | j==23 | j==24) | i==17&&
(j==2 | j==3 | j==22 | j==23)
| i==18&&(j==4 | j==5 | j==21 | j==22)){
 printf("%c",c);
 }else
if((j==10 | j==15)&&i>=2&&i<=11 | j==5&&i>=8&&i<=13

| j==20&&i>=8&&i<=11 | j==1&&i>=13&&i<=15 | j==25
&&i>=10&&i<=15){
 printf("%c",c);
 }
 else{
```



```

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

```

```

void Move_ML(){
 for(int i=0, k=30, t=0; ;){
 printf("\033[H\033[2J");
 for(int j=1; j<=3; j++){printf("\n");}
 if(t%2==0){
 Middle_Finger(t,'*');
 }else{
 Middle_Finger(t,'. ');
 }
 slowDown(.002);
 if(i<=30){
 t=i++;
 }else if(k>=1){
 t=k--;
 }else{
 i=1;
 k=30;
 }
 printf("\033[H");
 }
}

```

```

int main(){
 Move_ML();
}

```



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

```
void slowDown(double d){
 for(double y=.1;y<100000;y=y+d){}
}
```

```
void M_F(int n, char c){
 for(int i=1; i<=22; i++){
 for(int t=1;t<=n;t++){
 printf(" ");
 } // Trigon->>> Hamim_2011 ->>> Hrdz_CD
 for(int j=1; j<=25; j++){
 if(i==1&&j>=11&&j<=14 | i==7&&
(j>=6&&j<=9 | j>=16&&j<=19)
```

```
 | i==11&&j>=3&&j<=5 | i==8&&j>=21&&j<=23 | i==9&
&j>=24&&j<=25 | i==12&&j>=1&&j<=2
 | i==22&&j>=5&&j<=21 | (i>=19&&i<=21)&&
(j==5 | j==6 | j==20 | j==21)
 | i==16&&j==1 | j==2 | j==23 | j==24) | i==17&&
(j==2 | j==3 | j==22 | j==23)
 | i==18&&j==4 | j==5 | j==21 | j==22)){
 printf("%c",c);
 }else
if((j==10 | j==15)&&i>=2&&i<=11 | j==5&&i>=8&&i<=13

| j==20&&i>=8&&i<=11 | j==1&&i>=13&&i<=15 | j==25
&&i>=10&&i<=15){
 printf("%c",c);
}
else{
```

```

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

```

```

void Move_MF(int a, int b){
 for(int i=a, k=b, t=0; ;){
 printf("\033[H\033[2J");
 printf("\n\n");
 if(t%2==0){
 M_F(t,'*');
 }else{
 M_F(t,'. ');
 }
 slowDown(.002);
 if(i<=b){
 t=i++;
 }else if(k>=a){
 t=k--;
 }else{
 i=a;
 k=b;
 }
 printf("\033[H");
 }
}

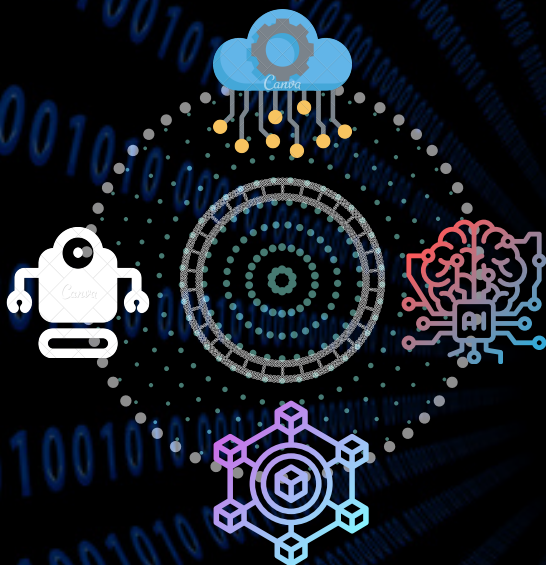
```

```

int main(){
 Move_MF(20, 60);
}

```





C-PROGRAMMING  
(PATTERN)  
T.I.M. HA-MEAM

ABC  
PROKASHONI