Write C programs to print the following patterns:	

1. Square pattern for N lines. E.g. for N=4:
 	
`* * * *`
`* * * *`
`* * * *`
`* * * *`
	2. <u>Hollow</u> square pattern for N lines. E.g. for N=4:
	
	`* * * *`
	`*     *`
	`*     *`
	`* * * *`

``c
#include <stdio.h>
 	
void main()
{
    int i, j, N;
    printf("No. of rows:");
    scanf("%d", &N);
 	
    //In each of N rows/lines
    for(i=1; i<=N; i++)
    {
        //print N stars
        for(j=1; j<=N; j++)
        {
            printf("*");
        }//j
 	
        //Go to next line
        printf("\n");
    }//i
 	
}
``
	``c
	#include <stdio.h>
	
	void main()
	{
	    int i, j, N;
	    printf("No. of rows:");
	    scanf("%d", &N);
	
	    for(i=1; i<=N; i++)
	    {
	        for(j=1; j<=N; j++){
	//Print star in first and last row as
	well as in first and last column
	            if(i==1||i==N||j==1||j==N)
	                printf("*");
	            else
	                printf(" ");
	        }//j
	        printf("\n");
	    }//i
	}
	``

Try yourself 1a: Write a C program to print a rectangle pattern of size m*n. For e.g. for m=10, n=5 print:
```
* * * * * * * * * *
* * * * * * * * * *
* * * * * * * * * *
* * * * * * * * * *
* * * * * * * * * *
```

Try yourself 2a: Write a C program to print a <u>hollow</u> rectangle pattern of size m*n. For e.g. for m=10, n=5 print:
```
* * * * * * * * * *
*               *
*               *
*               *
* * * * * * * * * *
```

Try yourself 2b: Write a C program to print a <u>hollow</u> right angled triangle of height n. For e.g. for n=7 print:
```
*
* *
```

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

---

3. Rhombus pattern for N lines. E.g. for N=4:

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

```c
#include <stdio.h>

void main()
{
    int i, j, N;

    printf("Enter rows: ");
    scanf("%d", &N);

    for(i=1; i<=N; i++)
    {
        //Print leading spaces
        for(j=1; j<=N - i; j++)
            printf(" ");

        //Print stars after spaces
        for(j=1; j<=N; j++)
            printf("*");

        printf("\n");
    }

}
```

<u>Exercise Problems</u>:

1. Write a C program to print hollow rhombus star pattern of N lines. E.g. for N=5 print:

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

<u>Assignment Problems</u>:

1. **Write a C program to print a hollow parallelogram pattern of size m*n. E.g for m=10, n=5 print:**

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

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

2. **Write a C program to print a <u>right justified</u> hollow right angled triangle of height n. For e.g. for n=7 print:**

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