Pattern 1

Program 1:

```c
#include<stdio.h>

void main() {

        int rows;

        printf("Enter no of rows:");
        scanf("%d",&rows);

        for(int i=1;i<=rows;i++) {

                int k=i;

                for(int j=1;j<=rows;j++) {

                        printf("%d  ",k++);
                }
                printf("\n");
        }

}
```

"program1.c" 32L, 309B   1,1   All

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program1.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program1.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
1  2  3  4
2  3  4  5
3  4  5  6
4  5  6  7
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 2:

```c
/*
 *    Program 2:
 *
 *    1  2  3
 *    a  b  c
 *    1  2  3
 *    a  b  c
 *
 */

#include<stdio.h>

void main() {

    int rows;

    printf("Enter no of rows:");
    scanf("%d",&rows);

    for(int i=1;i<=rows;i++) {

        char ch='a';

        for(int j=1;j<=rows;j++) {

            if(i%2==0)
                printf("%c  ",ch++);
            else
                printf("%d  ",j);
        }
        printf("\n");
    }

}
```

"program2.c" 35L, 366B   1,1   All

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vi program2.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program2.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
1  2  3  4
a  b  c  d
1  2  3  4
a  b  c  d
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:3
1  2  3
a  b  c
1  2  3
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 3:

sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment2

```c
/*
 *      Program 3:
 *
 *      1  1  1  1
 *      2  2  2  2
 *      3  3  3  3
 *      4  4  4  4
 *
 */

#include<stdio.h>

void main() {

        int rows;

        printf("Enter no of rows:");
        scanf("%d",&rows);

        for(int i=1;i<=rows;i++) {

                for(int j=1;j<=rows;j++) {

                        printf("%d  ",i);
                }
                printf("\n");
        }

}
```

"program3.c" 30L, 311B   1,1   All

sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment2

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program3.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program3.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
1  1  1  1
2  2  2  2
3  3  3  3
4  4  4  4
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:3
1  1  1
2  2  2
3  3  3
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 4:

```
/*
 *    Program 4:
 *
 *    A  B  C
 *    D  E  F
 *    G  H  I
 *
 */

#include<stdio.h>

void main() {

        int rows;

        printf("Enter no of rows:");
        scanf("%d",&rows);

        char ch = 'A';

        for(int i=1;i<=rows;i++) {

                for(int j=1;j<=rows;j++) {

                        printf("%c  ",ch++);
                }
                printf("\n");
        }

}
~
~
~
~
~
~
~
~
~
~
~
"program4.c" 30L, 307B                                    1,1              All
```

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program4.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program4.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:3
A  B  C
D  E  F
G  H  I
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
A  B  C  D
E  F  G  H
I  J  K  L
M  N  O  P
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 5:


```c
/*
 *      Program 5:
 *
 *      A  B  C  D
 *      B  C  D  E
 *      C  D  E  F
 *      D  E  F  G
 *
 */

        #include<stdio.h>

        void main() {

                int rows;

                printf("Enter no of rows:");
                scanf("%d",&rows);

                for(int i=65;i<65+rows;i++) {

                        char ch = i;

                        for(int j=1;j<=rows;j++) {

                                printf("%c  ",ch++);
                        }
                        printf("\n");
                }

        }
```

"program5.c" 32L, 329B   1,1   All


```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program5.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program5.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
A  B  C  D
B  C  D  E
C  D  E  F
D  E  F  G
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:5
A  B  C  D  E
B  C  D  E  F
C  D  E  F  G
D  E  F  G  H
E  F  G  H  I
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 6:


```c
/*
*    Program 6:
*
*    $  =  $  =
*    $  =  $  =
*    $  =  $  =
*    $  =  $  =
*
*/

#include<stdio.h>

void main() {

        int rows;

        printf("Enter no of rows:");
        scanf("%d",&rows);

        for(int i=1;i<=rows;i++) {

                for(int j=1;j<=rows;j++) {

                        if(j%2==0)
                                printf("=  ");
                        else
                                printf("$  ");
                }
                printf("\n");
        }

}
```

```
"program6.c" 33L, 347B written                                          2,12-17      All
```



```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program6.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program6.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
$  =  $  =
$  =  $  =
$  =  $  =
$  =  $  =
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:5
$  =  $  =  $
$  =  $  =  $
$  =  $  =  $
$  =  $  =  $
$  =  $  =  $
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 7:

```c
/*
 *      Program 7:
 *
 *      1    2    9    4
 *      25   6    49   8
 *      81   10   121  12
 *      168  14   225  16
 *
 */

#include<stdio.h>

void main() {

        int rows;

        printf("Enter no of rows:");
        scanf("%d",&rows);

        int num=1;

        for(int i=1;i<=rows;i++) {

                for(int j=1;j<=rows;j++) {

                        if(j%2==0) {
                                printf("%-5d",num);
                                num++;
                        }else {
                                printf("%-5d",num*num);
                                num++;
                        }
                }
                printf("\n");
        }

}
```

```
"program7.c" 38L, 442B                                                    31,16-51      All
```

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program7.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program7.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
1    2    9    4
25   6    49   8
81   10   121  12
169  14   225  16
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 8:

```c
/*
 *    Program 8:
 *
 *    1  3  5
 *    7  9  11
 *    13 15 17
 *
 */

#include<stdio.h>

void main() {

        int rows;

        printf("Enter no of rows:");
        scanf("%d",&rows);

        int num =1;

        for(int i=1;i<=rows;i++) {

                for(int j=1;j<=rows;j++) {

                                printf("%-3d  ",num);
                                num+=2;
                }


                printf("\n");
        }

}
```

```
"program8.c" 35L, 322B                                                      26,15-50        All
```

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program8.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program8.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:3
1    3    5
7    9    11
13   15   17
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
1    3    5    7
9    11   13   15
17   19   21   23
25   27   29   31
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 9:

```
/*
 *      Program 9:
 *
 *      2    5    10
 *      17   26   37
 *      50   65   82
 *
 */

        #include<stdio.h>

        void main() {

                int rows;

                printf("Enter no of rows:");
                scanf("%d",&rows);

                int num =1;

                for(int i=1;i<=rows;i++) {

                        for(int j=1;j<=rows;j++) {

                                printf("%-3d   ",num*num+1);
                                num++;
                        }


                        printf("\n");
                }

        }
```

"program9.c" 35L, 334B   27,10-45   All

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program9.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program9.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:3
2    5    10
17   26   37
50   65   82
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
2    5    10   17
26   37   50   65
82   101  122  145
170  197  226  257
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```

Program 10:

sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment2

```c
/*
 *      Program 10:
 *
 *      D4  C3  B2  A1
 *      D4  C3  B2  A1
 *      D4  C3  B2  A1
 *      D4  C3  B2  A1
 *
 */

#include<stdio.h>

void main() {

        int rows;

        printf("Enter no of rows:");
        scanf("%d",&rows);


        for(int i=1;i<=rows;i++) {

                char ch='A'+rows-1;

                for(int j=rows;j>=1;j--) {

                        printf("%c%d  ",ch--,j);
                }


                printf("\n");
        }

}
```

"program10.c" 36L, 363B   24,21-42   All

sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment2

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ vim program10.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ gcc program10.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:4
D4  C3  B2  A1
D4  C3  B2  A1
D4  C3  B2  A1
D4  C3  B2  A1
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$ ./a.out
Enter no of rows:7
G7  F6  E5  D4  C3  B2  A1
G7  F6  E5  D4  C3  B2  A1
G7  F6  E5  D4  C3  B2  A1
G7  F6  E5  D4  C3  B2  A1
G7  F6  E5  D4  C3  B2  A1
G7  F6  E5  D4  C3  B2  A1
G7  F6  E5  D4  C3  B2  A1
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment2$
```