

## Patterns 2

### Program 1:

```
Activities Terminal Sep 5 23:37
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

/*
 * Program 1:
 *      4 3 2 1
 *      5 4 3 2
 *      6 5 4 3
 *      7 6 5 4
 */

#include<stdio.h>

void main() {

    int rows;

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

    int k=rows;

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

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

            printf("%d ",k--);

            k = rows+i;

            printf("\n");

        }

    }

}

"program1.c" 36L, 330B 31,3-24 All
```

```
Activities Terminal Sep 5 23:39
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vim program1.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program1.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:4
4 3 2 1
5 4 3 2
6 5 4 3
7 6 5 4
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```

## Program 2:

```
Activities Terminal Sep 5 23:39
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

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

#include<stdio.h>

void main() {
    int rows;

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

    for(int i=1;i<=rows;i++) {
        char ch='c';
        for(int j=rows-1;j>=1;j--) {
            if(i%2==0)
                printf("%c ",ch--);
            else
                printf("%d ",j);
        }
        printf("\n");
    }
}

"program2.c" 35L, 368B 5,11-15 All
```

```
Activities Terminal Sep 5 23:40
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vim program2.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vim program2.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program2.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:4
3 2 1
c b a
3 2 1
c b a
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```

### Program 3:

ActivitiesTerminalSep 5 23:40sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

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

#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 ",rows+1-i);
        }
        printf("\n");
    }
}
```

"program3.c" 30L, 318B25,25-53All

```

sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vim program3.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program3.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:4
4 4 4 4
3 3 3 3
2 2 2 2
1 1 1 1
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$

```

## Program 5:

```
Activities Terminal Sep 5 23:41
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

/*
 * Program 5:
 *
 * D C B A
 * e d c b
 * F E D C
 * g f e d
 *
 */

#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+i-2;

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

            if(i%2!=0)
                printf("%c ",ch--);
            else
                printf("%c ",32+ch--);

        }
        printf("\n");

    }

}

"program5.c" 37L, 394B 24,25-46 All
```

```
Activities Terminal Sep 5 23:42
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vim program5.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program5.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:4
D C B A
e d c b
F E D C
g f e d
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```

## Program 6:

```
Activities Terminal Sep 5 23:42
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

/*
 *   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(i%2==0)
                printf("=" );
            else
                printf("$ ");
        }
        printf("\n");
    }
}

"program6.c" 33L, 347B 25,11-39 All
```

```
Activities Terminal Sep 5 23:43
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:4
= = =
$ $ $ $
= = =
$ $ $ $
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```

## Program 7:

```
Activities Terminal Sep 5 23:43
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

/*
 * Program 7:
 *      1  2  3  4
 *     25 36 49 64
 *      9 10 11 12
 *     169 196 225 256
 */

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

"program7.c" 36L, 412B 26,11-39 All
```

```
Activities Terminal Sep 5 23:44
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program7.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:4
1  2  3  4
25 36 49 64
9  10 11 12
169 196 225 256
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```

## Program 8:

```
Activities Terminal Sep 5 23:44
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

/*
 * Program 8:
 *
 * 18 14 16
 * 12 10 8
 * 6 4 2
 */

#include<stdio.h>

void main() {
    int rows;

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

    int num = rows*rows*2;
    for(int i=1;i<=rows;i++) {
        for(int j=1;j<=rows;j++) {
            printf("%-3d ",num);
            num-=2;
        }

        printf("\n");
    }
}

"program8.c" 35L, 333B 27,9-44 All
```

```
Activities Terminal Sep 5 23:45
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vim program8.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program8.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:3
18 16 14
12 10 8
6 4 2
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```

## Program 9:

```
Activities Terminal Sep 5 23:45
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

/*
 * Program 9:
 *
 * 0 3 8
 * 15 24 35
 * 48 63 80
 */

#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, 327B 26,30-65 All
```

```
Activities Terminal Sep 5 23:46
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vim program9.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program9.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:3
0 3 8
15 24 35
48 63 80
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```



## Program 10:

```
Activities Terminal Sep 5 23:46
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

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

#include<stdio.h>

void main()
{
    int rows;

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

    char ch,k;

    for(int i=1;i<=rows;i++) {
        if(i%2!=0) {
            ch='A'+rows-1;
            k = rows;
        }else {
            ch='A';
            k = 1;
        }

        for(int j=rows;j>=1;j--) {
            if(i%2!=0)
                printf("%c%d ",ch--,k--);
            else
                printf("%c%d ",ch++,k++);

            printf("\n");
        }
    }
}

"program10.c" 44L, 501B written 44,2-9 All
```

```
Activities Terminal Sep 5 23:47
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment3

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ vi program10.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ gcc program10.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$ ./a.out
Enter no of rows:4
D4 C3 B2 A1
A1 B2 C3 D4
D4 C3 B2 A1
A1 B2 C3 D4
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment3$
```