

Q.1 Write a Program to print the below pattern using nested for loop.

```
41
41 42
41 42 43
41 42 43 44
41 42 43 44 45
```

Ans: #include<stdio.h>

```
int main(){
    int i,j;

    for (i = 41; i <=45; i++) {
        for (j = 41; j <= i; j++) {
            printf("%d ", j);
        }
        printf("\n");
    }
    return 0;
}
```

O\p: /tmp/WvB1CvnsW8.o

```
41
41 42
41 42 43
41 42 43 44
41 42 43 44 45
```

=== Code Execution Successful ===

Q.2 Write a Program to print the below pattern using nested for loop.

```
11
12 13
14 15 16
17 18 19 20
21 22 23 24 25
```

Ans: #include <stdio.h>

```
int main() {
    int k = 11;
    for(int i = 1; i <= 5; i++) {
        for(int j = 1; j <= i; j++) {
            printf("%3d", k);
            k++;
        }
        printf("\n");
    }
}
```

```

    }
    return 0;
}
O\p: /tmp/guivoMyc8C.o
11
12 13
14 15 16
17 18 19 20
21 22 23 24 25

```

=== Code Execution Successful ===

Q.3 Write a Program to print the below pattern using nested for loop.

```

    5
  4 5
3 4 5
2 3 4 5
1 2 3 4 5

```

Ans: #include <stdio.h>

```

int main() {
for(int i=1;i<=5;i++){
    for(int j=1;j<=5;j++){
        if(i+j>=6){
            printf("%d",j);
        }else{
            printf(" ");
        }

    }
    printf("\n");
}

    return 0;
}

```

```

O\p: /tmp/BEmBgebsIV.o
    5
  45
345
2345
12345

```

=== Code Execution Successful ===

Q.4 Write a Program to print the below pattern using nested for loop.

```
1 0 1 0 1
 1 0 1 0
   1 0 1
    1 0
     1
```

Ans: #include <stdio.h>

```
int main() {
    int i, j, k;

    for(i = 5; i >= 1; --i) {

        for(k = 5; k > i; k--) {
            printf(" ");
        }

        for(j = i; j >= 1; --j) {
            if(j % 2 == 1)
            {
                printf("1 ");
            }
            else
            {
                printf("0 ");
            }
        }
        printf("\n");
    }
}
```

```
return 0;
}
O\p: /tmp/brrywxGZ4J.o
1 0 1 0 1
 1 0 1 0
   1 0 1
    0 1
     1
```

=== Code Execution Successful ===

Q.5 Write a Program to print the below pattern using nested for loop.

```
1           1
1 2         2 1
1 2 3       3 2 1
1 2 3 4     4 3 2 1
1 2 3 4 5 5 4 3 2 1
```

Ans; #include <stdio.h>

```
int main() {
    int i, j;
    for (i = 1; i <= 5; i++) {
        for (j = 1; j <= i; j++) {
            printf("%d ", j);
        }

        for (j = i; j <= 4; j++) {
            printf(" ");
        }
        for (j = i; j >= 1; j--) {
            printf("%d", j);
            if (j != 1) {
                printf(" ");
            }
        }
        printf("\n");
    }
    return 0;
}
```

O\p: /tmp/6vxSikGDkM.o

```
1           1
1 2         2 1
1 2 3       3 2 1
1 2 3 4     4 3 2 1
1 2 3 4 5 5 4 3 2 1
```

=== Code Execution Successful ===

Q.6 Write a Program to print the below pattern using nested for loop.

```
5
4 5 4
3 4 5 4 3
```

```

3 3 4 5 4 3 2
1 2 3 4 5 4 3 2 1
Ans: #include <stdio.h>

```

```

int main() {
    int n = 5;

    for (int i = n; i >= 1; i--) {
        for (int j = 1; j <= n - i; j++) {
            printf(" ");
        }
        for (int j = i; j <= n; j++) {
            printf("%d ", j);
        }
        for (int j = n - 1; j >= i; j--) {
            printf("%d ", j);
        }
        printf("\n");
    }

    return 0;
}

```

```

O\p: /tmp/g3vCVCxidi.o
5
4 5 4
3 4 5 4 3
2 3 4 5 4 3 2
1 2 3 4 5 4 3 2 1

```

=== Code Execution Successful ===

Q.7 Write a Program to print the below pattern using nested for loop.

```

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

```

Ans: #include <stdio.h>

```

int main() {
    for (int i = 1; i <= 5; i++) {
        if (i == 1 || i == 3) {
            printf("\n* * * * *");
        }
    }
}

```

```
        } else {  
            printf("\n*      *");  
        }  
  
    }  
    return 0;  
}
```

O\p: /tmp/nRdcufIMpb.o

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

=== Code Execution Successful ===