



Daffodil
International
University

LAB REPORT

Course Code: SE-121

Course Title: Structured Programming

Experiment No: 05

Experiment Name: Pattern

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Semester: Spring 25

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1. //square pattern

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

```
int main() {
```

```
    int totalrow = 5;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = 1; col <= totalrow; col++) {
```

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

```
        }
```

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

```
    }
```

```
    return 0;
```

main.c

Output

```
* * * * *
```

```
* * * * *
```

```
* * * * *
```

```
* * * * *
```

```
* * * * *
```

=== Code Execution Successful ===

2. //Right angled triangle pattern

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

```
int main() {
```

```
    int totalrow = 5;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = 1; col <= row; col++) {
```

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

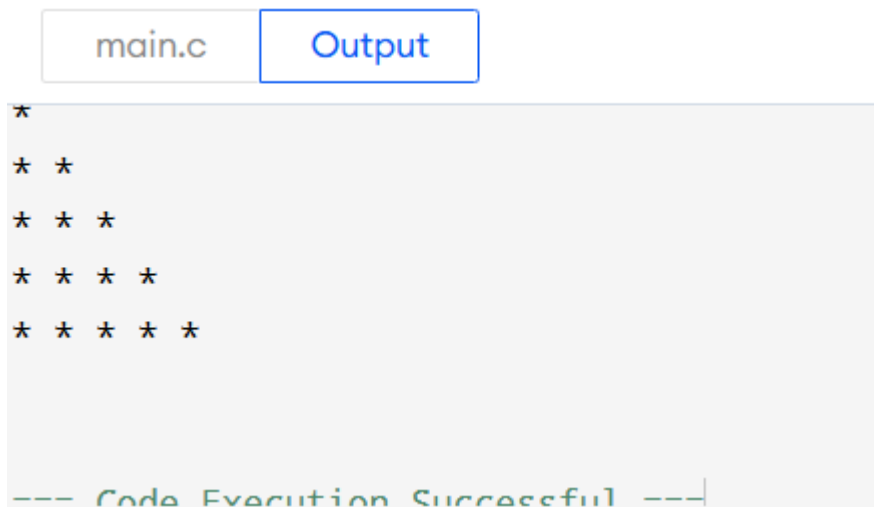
```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```



The screenshot shows a code editor with two tabs: "main.c" and "Output". The "Output" tab is active, displaying the result of the program's execution. The output is a right-angled triangle pattern of stars, with 5 rows. The first row has 1 star, the second has 2, the third has 3, the fourth has 4, and the fifth has 5. The stars are separated by a space. At the bottom of the output window, a green status bar reads "--- Code Execution Successful ---".

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

--- Code Execution Successful ---

3.//Invert right angle

```
#include <stdio.h>

int main() {
    int totalrow = 5;
    for(int row = totalrow; row >= 1; row--) {
        for(int col = 1; col <= row; col++) {
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```

main.c

Output

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

4.//PYRAMID

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

```
int main() {
```

```
    int totalrow = 5;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = row; col < totalrow; col++) {
```

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

```
        }
```

```
        for(int col = 1; col <= 2 * row - 1; col++) {
```

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

```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```

```
      *
```

```
    * * *
```

```
  * * * * *
```

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

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

5. //Inverted pyramid

```
#include <stdio.h>

int main() {
    int totalrow = 5;
    for(int row = totalrow; row >= 1; row--) {
        for(int col = row; col < totalrow; col++) {
            printf(" ");
        }
        for(int col = 1; col <= 2 * row - 1; col++) {
            printf("* ");
        }
        printf("\n");
    }
    return 0;
}
```

main.c

Output

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

6.//right angle triangle

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

```
int main() {
```

```
    int totalrow = 5;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = 1; col <= row; col++) {
```

```
            printf("%d ", row);
```

```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```

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

7.//Floyds Triangle

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

```
int main() {
```

```
    int totalrow = 5, num = 1;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = 1; col <= row; col++) {
```

```
            printf("%d ", num++);
```

```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```


8.//number pyramid

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

```
int main() {
```

```
    int totalrow = 5;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = row; col < totalrow; col++) {
```

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

```
        }
```

```
        for(int col = 1; col <= row; col++) {
```

```
            printf("%d ", col);
```

```
        }
```

```
        for(int col = row - 1; col >= 1; col--) {
```

```
            printf("%d ", col);
```

```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```

main.c

Output

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

9.//square number pattern

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

```
int main() {
```

```
    int totalrow = 5, num = 1;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = 1; col <= totalrow; col++) {
```

```
            printf("%d ", num++);
```

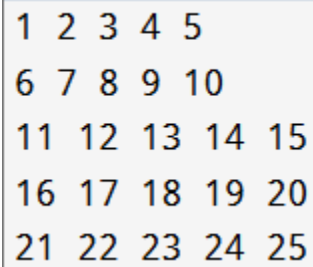
```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```



```
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
```

10.//pyramid using fibonacci

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

```
int main() {
```

```
    int totalrow = 5;
```

```
    int a = 0, b = 1;
```

```
    for(int row = 1; row <= totalrow; row++) {
```

```
        for(int col = row; col < totalrow; col++) {
```

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

```
        }
```

```
        for(int col = 1; col <= row; col++) {
```

```
            printf("%d ", a);
```

```
            int temp = a + b;
```

```
            a = b;
```

```
            b = temp;
```

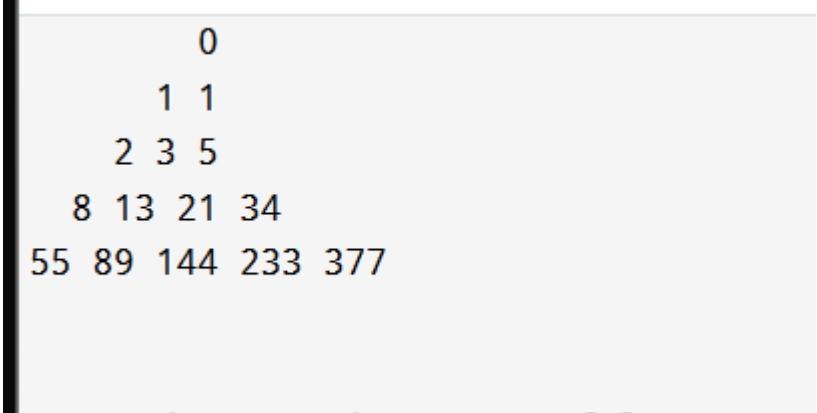
```
        }
```

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

```
    }
```

```
    return 0;
```

```
}
```



```
      0
     1 1
    2 3 5
   8 13 21 34
  55 89 144 233 377
```

