Institute of Computer Technology
B. Tech. Computer Science and Engineering

Sub: ESFP – I
Course Code: 2CSE102
Practical – 11

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Q.1.Problem Definition:

Make an appropriate program to display each of the following patterns.

Code-1:

```c
//   1.
#include <stdio.h>
int main()
{
    int i, j;

    for (i = 1; i <= 5; i++)
    {

        for (j = i; j <= 5; j++)
        {
            printf("*");
        }
```

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

    return 0;
}
```

Output-1:


```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dw
}
*****
****
***
**
*
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```

Code-2:

```c
//    2.

#include <stdio.h>
int main()
```

```c
{
    int i, j;

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

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

        printf("\n");
    }
    return 0;
}
```

Output-2:

Code-3:

```c
//    3.
#include <stdio.h>
int main()
{
    int i, j;
```

```c
    for (i = 1; i <= 5; ++i)
    {

        for (j = 1; j <= i; ++j)
        {
            printf("*");
        }

        printf("\n");
    }
    return 0;
}
```

Output-3:

Code-4:

```c
//  4.
#include <stdio.h>
int main()
{
    int i, j;

    for (i = 1; i <= 5; i++)
    {
```

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


        printf("\n");
    }
    return 0;
}
```

Output-4:

Code-5:

```c
//   5.
#include <stdio.h>
int main()
{

    for (int i = 1; i <= 5; i++)
    {
        for (int j = (5-i); j > 0; j--)
        {
            printf(" ");
        }
```

```c
        for (int k = 1; k <= i; k++)
        {
            printf("*");
        }

        printf("\n");
    }
    return 0;
}
```

Output-5:

Code-6:

```c
//      6.
#include <stdio.h>
int main()
{

    for (int i = 1; i <= 5; i++)
    {
        for (int j = (5-i); j > 0; j--)
        {
            printf(" ");
        }
```

```c
        for (int k = 1; k <= i; k++)
        {
            printf("%d",k);
        }

        printf("\n");
    }

    return 0;
}
```

Output-6:

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dwi
}
    1
   12
  123
 1234
12345
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```

Code-7:

```c
//    7.
#include <stdio.h>
int main()
{
    int rows = 5;
    int space, star;

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

```c
        for (space = 1; space <= rows - i; space++)
        {
            printf(" ");
        }

        for (star = 1; star <= 2 * i - 1; star++)
        {
            printf("*");
        }

        printf("\n");
    }

    return 0;
}
```

Output-7:

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\d
}
    *
   ***
  *****
 *******
*********
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```

Code-8:

```c
//      8.
#include <stdio.h>
int main()
{
    int rows = 5;
```

```c
    int space, star;

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

        for (space = 1; space <= rows - i; space++)
        {
            printf(" ");
        }

        for (star = 1; star <= 2 * i - 1; star++)
        {
            printf("%d",star);
        }

        printf("\n");
    }

    return 0;
}
```

Output-8:

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dw
}
    1
   123
  12345
 1234567
123456789
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```

Code-9:

```c
//    9.
```

```c
#include <stdio.h>
int main()
{
    int rows = 5;
    int space, star;

    for (int i = rows; i >= 1; i--)
    {
        for (space = 1; space <= rows - i; space++)
        {
            printf(" ");
        }
        for (star = 1; star <= 2 * i - 1; star++)
        {
            printf("*");
        }

        printf("\n");
    }

    return 0;
}
```

Output-9:

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dw
}
*********
 *******
  *****
   ***
    *
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```

Code-10:

```
//      10.
#include <stdio.h>
int main()
{
    char current_char = 'A';

    for (int i = 1; i <= 5; i++)
    {

        for (int j = 0; j < i; j++)
        {
            printf("%c ", current_char++);
        }

        printf("\n");
    }
    return 0;
}
```

Output-10:

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\d
}
A
B C
D E F
G H I J
K L M N O
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```

Code-11:

```
//      11.
#include<stdio.h>
int main()
{
```

```c
    char current_char = 'A';

    for (int i = 1; i <= 5; i++)
    {

        for (int j = 0; j < i; j++)
        {
            printf("%c", current_char);
        }

        printf("\n");

        current_char++;

    }

    return 0;
}
```

Output-11:

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\dw
}
A
BB
CCC
DDDD
EEEEE
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```

Code-12:

```c
#include <stdio.h>
int main()
{
    char current_char = 'E';
```

```c
    for (int i = 1; i <= 5; i++)
    {

        for (int j = 0; j < i; j++)
        {
            printf("%c", current_char);
        }

        printf("\n");
        current_char--;


    }


    return 0;
}
```

Output-12:

```
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes> cd "c:\Users\d
}
E
DD
CCC
BBBB
AAAAA
PS C:\Users\dwijd\Downloads\esfp-l Prcticals\ESFP-l_Practicals_codes\Practical_11>
```