

Program 1

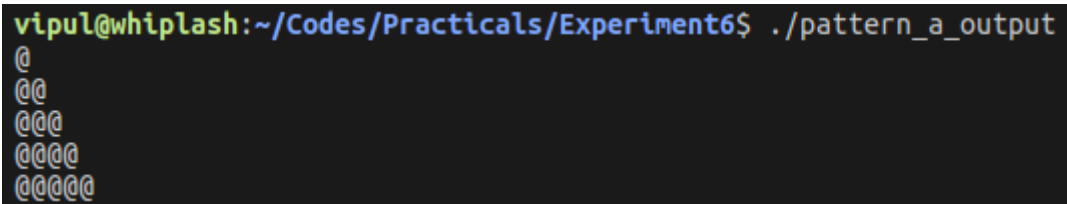
/*Program to print the following pattern:

```
@
@@
@@@
@@@@
@@@@@*/
```

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

```
int main()
```

```
{
    for (int i = 1; i <= 5; i++)
    {
        for (int j = 1; j <= i; j++)
        {
            printf("@");
        }
        printf("\n");
    }
    printf("\n");
}
```



```
vipul@whiplash:~/Codes/Practicals/Experiment6$ ./pattern_a_output
@
@@
@@@
@@@@
@@@@@
```

Program 2

/*Program to print the following pattern:

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5*/
```

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

```
int main()
```

```
{
```

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

```
    {
```

```
        for (int j = 1; j <= i; j++)
```

```
        {
```

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

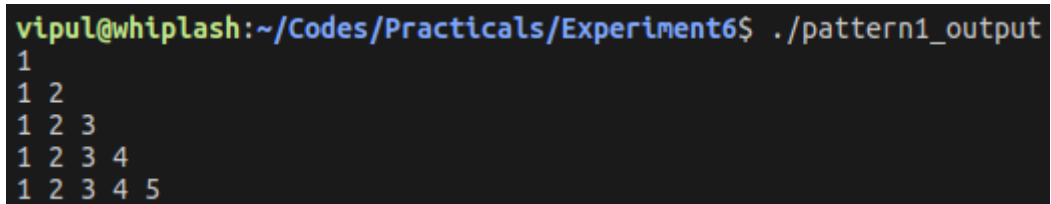
```
        }
```

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

```
    }
```

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

```
}
```



```
vipul@whiplash:~/Codes/Practicals/Experiment6$ ./pattern1_output
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

Program 3

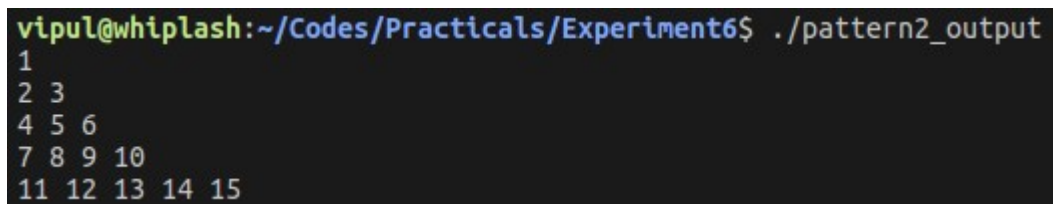
/*Program to print the following pattern:

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

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

```
int main()
```

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



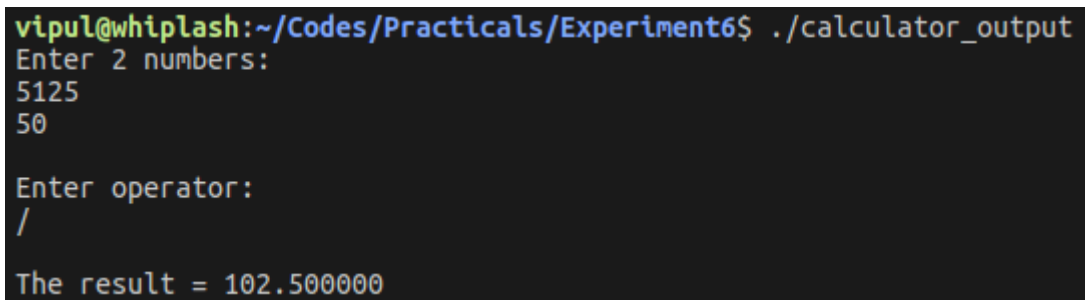
A terminal window with a dark background. The prompt is 'vipul@whiplash:~/Codes/Practicals/Experiment6\$'. The command './pattern2_output' has been executed, resulting in the following pattern being printed:

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

Program 4

//Program to design a calculator using switch case

```
#include <stdio.h>
int main()
{
    float a, b, res;
    char opt;
    printf("Enter 2 numbers:\n");
    scanf("%f %f", &a, &b);
    printf("\nEnter operator:\n");
    scanf("%c %c", &opt, &opt);
    switch (opt)
    {
        case '+':
            res = a + b;
            break;
        case '-':
            res = a - b;
            break;
        case '*':
            res = a * b;
            break;
        case '/':
            res = a / b;
            break;
        default:
            printf("\nEnter valid operators only\n");
    }
    printf("\nThe result = %f\n", res);
}
```



```
vipul@whiplash:~/Codes/Practicals/Experiment6$ ./calculator_output
Enter 2 numbers:
5125
50

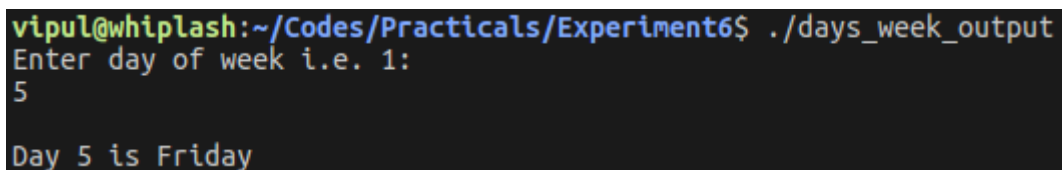
Enter operator:
/

The result = 102.500000
```

Program 5

//Write a menu driven program to print days of week using switch case

```
#include <stdio.h>
int main()
{
    int day;
    printf("Enter day of week i.e. 1:\n");
    scanf("%d", &day);
    switch (day)
    {
        case 1:
            printf("\nDay %d is Monday\n", day);
            break;
        case 2:
            printf("\nDay %d is Tuesday\n", day);
            break;
        case 3:
            printf("\nDay %d is Wednesday\n", day);
            break;
        case 4:
            printf("\nDay %d is Thursday\n", day);
            break;
        case 5:
            printf("\nDay %d is Friday\n", day);
            break;
        case 6:
            printf("\nDay %d is Saturday\n", day);
            break;
        case 7:
            printf("\nDay %d is Sunday\n", day);
            break;
        default:
            printf("\nEnter a valid day of the week(number)");
            break;
    }
    printf("\n");
}
```



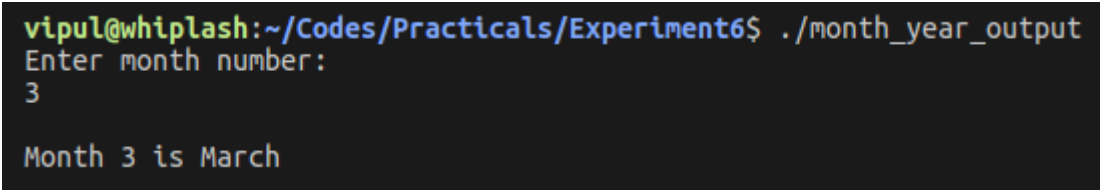
```
vipul@whiplash:~/Codes/Practicals/Experiment6$ ./days_week_output
Enter day of week i.e. 1:
5
Day 5 is Friday
```

Program 6

//Write a menu driven program to print month of the year based on the number entered by user

```
#include <stdio.h>
int main()
{
    int Month;
    printf("Enter month number:\n");
    scanf("%d", &Month);
    switch (Month)

    case 1: printf("\nMonth %d is January\n", Month);
            break;
    case 2: printf("\nMonth %d is February\n", Month);
            break;
    case 3: printf("\nMonth %d is March\n", Month);
            break;
    case 4: printf("\nMonth %d is April\n", Month);
            break;
    case 5: printf("\nMonth %d is May\n", Month);
            break;
    case 6: printf("\nMonth %d is June\n", Month);
            break;
    case 7: printf("\nMonth %d is July\n", Month);
            break;
    case 8: printf("\nMonth %d is August\n", Month);
            break;
    case 9: printf("\nMonth %d is September\n", Month);
            break;
    case 10: printf("\nMonth %d is October\n", Month);
            break;
    case 11: printf("\nMonth %d is November\n", Month);
            break;
    case 12: printf("\nMonth %d is December\n", Month);
            break;
    default: printf("\nEnter a valid Month of the Year(number)");
            break;
    }
    printf("\n");
}
```



```
vipul@whiplash:~/Codes/Practicals/Experiment6$ ./month_year_output
Enter month number:
3
Month 3 is March
```

Program 7

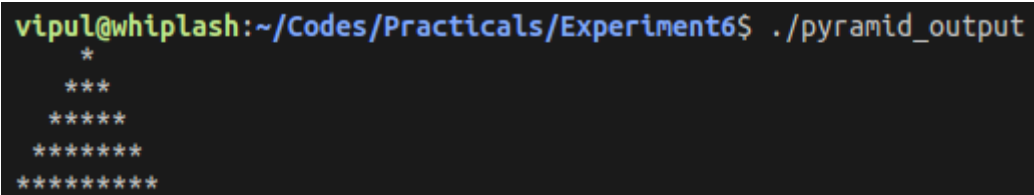
/*Program to print the following pattern:

```
 *
***
*****
*****
***** */
```

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

```
int main()
```

```
{
    for (int i = 1; i <= 5; i++)
    {
        for (int j = 5 - i; j > 0; j--)
            printf(" ");
        for (int k = 1; k <= 2 * i; k++)
            printf("*");
        printf("\n");
    }
    printf("\n");
}
```



A terminal window with a dark background. The prompt is `vipul@whiplash:~/Codes/Practicals/Experiment6$`. The command `./pyramid_output` has been executed. The output is a star pattern consisting of five lines: a single star, three stars, five stars, seven stars, and nine stars, each line centered.

```
vipul@whiplash:~/Codes/Practicals/Experiment6$ ./pyramid_output
 *
***
*****
*****
*****
```