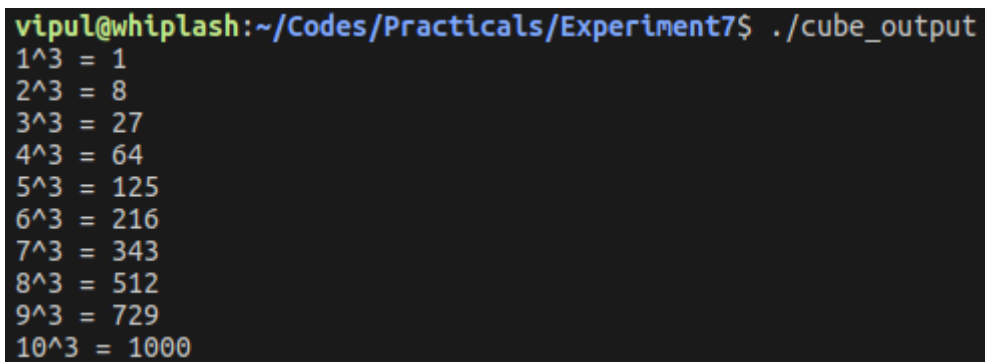


Program 1

//Program to create user defined function called cube that will print cube of numbers form 1 to 10

```
#include <stdio.h>
int square(int i)
{
    return (i * i * i);
}

int main()
{
    for (int i = 1; i <= 10; i++)
    {
        printf("%d^3 = %d\n", i, square(i));
    }
    printf("\n");
}
```

A terminal window with a dark background. The prompt is 'vipul@whiplash:~/Codes/Practicals/Experiment7\$'. The command './cube_output' has been executed, resulting in ten lines of output showing the cube of integers from 1 to 10. The output is: 1^3 = 1, 2^3 = 8, 3^3 = 27, 4^3 = 64, 5^3 = 125, 6^3 = 216, 7^3 = 343, 8^3 = 512, 9^3 = 729, 10^3 = 1000.

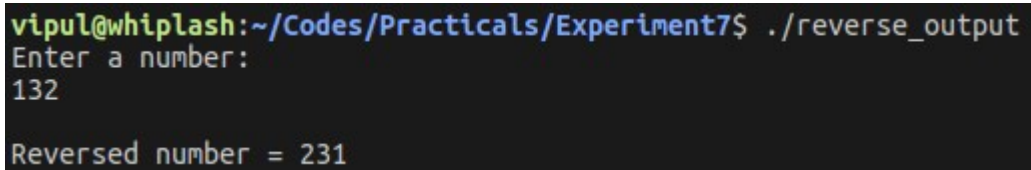
```
vipul@whiplash:~/Codes/Practicals/Experiment7$ ./cube_output
1^3 = 1
2^3 = 8
3^3 = 27
4^3 = 64
5^3 = 125
6^3 = 216
7^3 = 343
8^3 = 512
9^3 = 729
10^3 = 1000
```

Program 2

//Program to reverse a number using functions[call by value]

```
#include <stdio.h>
int reverse(int num)
{
    int rev = 0;
    while (num > 0)
    {
        rev = rev * 10 + num % 10;
        num /= 10;
    }
    return rev;
}

int main()
{
    int num;
    printf("Enter a number:\n");
    scanf("%d", &num);
    printf("\nReversed number = %d\n\n", reverse(num));
}
```



```
vipul@whiplash:~/Codes/Practicals/Experiment7$ ./reverse_output
Enter a number:
132

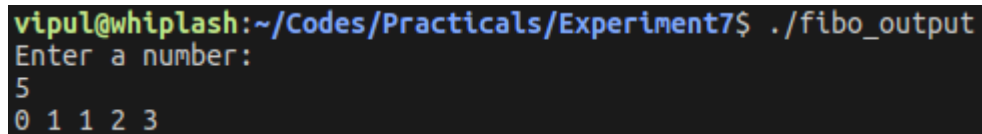
Reversed number = 231
```

Program 3

//Program to generate fibonacci series using functions

```
#include <stdio.h>
void gen(int num)
{
    int i = 1, f = 0, s = 1, sum = 0;
    for (; i <= num; i++)
    {
        printf("%d ", f);
        sum = f + s;
        f = s;
        s = sum;
    }
}

int main()
{
    int num;
    printf("Enter a number:\n");
    scanf("%d", &num);
    gen(num);
    printf("\n\n");
}
```



A terminal window showing the execution of the program. The prompt is 'vipul@whiplash:~/Codes/Practicals/Experiment7\$'. The user enters './fibonacci_output'. The program prompts 'Enter a number:' and the user enters '5'. The program outputs '0 1 1 2 3'.

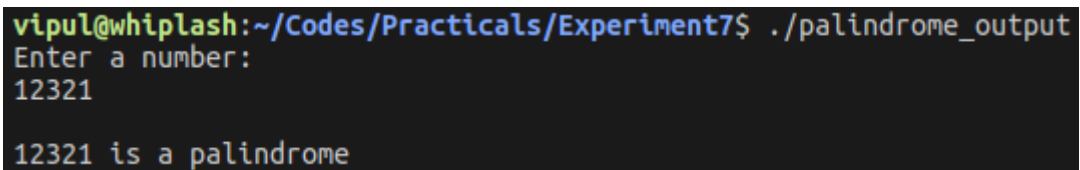
```
vipul@whiplash:~/Codes/Practicals/Experiment7$ ./fibonacci_output
Enter a number:
5
0 1 1 2 3
```

Program 4

//Program to accept a number from the user and check if it is a palindrome or not using functions

```
#include <stdio.h>
int chk(int num)
{
    int rev = 0;
    while (num > 0)
    {
        rev = rev * 10 + num % 10;
        num /= 10;
    }
    return rev;
}

int main()
{
    int num, rev;
    printf("Enter a number:\n");
    scanf("%d", &num);
    rev = chk(num);
    if (num == rev)
        printf("\n%d is a palindrome\n\n", rev);
    else
        printf("\n%d is not a palindrome\n\n", rev);
}
```



A terminal window with a dark background. The prompt is 'vipul@whiplash:~/Codes/Practicals/Experiment7\$'. The user has run the command './palindrome_output'. The program prompts 'Enter a number:' and the user has entered '12321'. The program then outputs '12321 is a palindrome'.

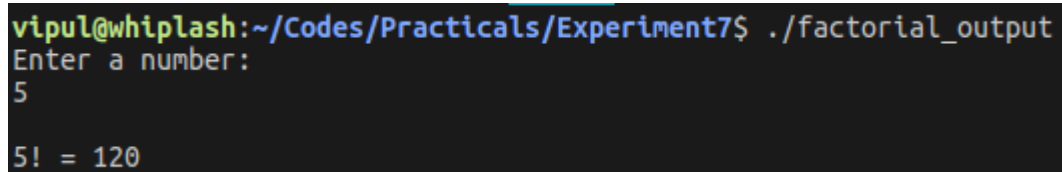
```
vipul@whiplash:~/Codes/Practicals/Experiment7$ ./palindrome_output
Enter a number:
12321
12321 is a palindrome
```

Program 5

// Find factorial of a number using recursion

```
#include <stdio.h>
int cal(int num)
{
    if (num >= 1)
        return (num * cal(num - 1));
    else
        return 1;
}

int main()
{
    int num, fact;
    printf("Enter a number:\n");
    scanf("%d", &num);
    fact = cal(num);
    printf("\n%d! = %d\n\n", num, fact);
}
```

A terminal window with a dark background. The prompt is 'vipul@whiplash:~/Codes/Practicals/Experiment7\$'. The user has run './factorial_output'. The program prompts 'Enter a number:' and the user has entered '5'. The program has outputted '5! = 120'.

```
vipul@whiplash:~/Codes/Practicals/Experiment7$ ./factorial_output
Enter a number:
5
5! = 120
```