**Assignment 4**

**// 1. Print armstrong number in the the given range 1 to n?**

    int start = 1, end = 1000;

    printf("Armstrong numbers between %d and %d:\n", start, end);

    for (int num = start; num <= end; num++) {

        int original = num, sum = 0, digits = 0, temp = num;

        while (temp > 0) {

            temp /= 10;

            digits++;

        }

        temp = num;

        while (temp > 0) {

            int digit = temp % 10;

            int i=0;

            int power=1;

            while (i<digits)

            {

                power = power \* digit;

                i++;

            }

            sum += power;

            temp /= 10;

        }

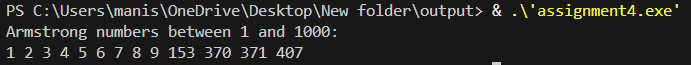
        if (sum == original) {

            printf("%d ", num);

        }

    }

**Output:**

****

**// 2. Print prime number in the given range 1 to n?**

int start = 1, end = 1000;

    printf("Prime numbers between %d and %d:\n", start, end);

    for (int num = start; num <= end; num++) {

        if (num < 2) continue;

        int is\_prime = 1;

        for (int i = 2; i \* i <= num; i++) {

            if (num % i == 0) {

                is\_prime = 0;

                break;

            }

        }

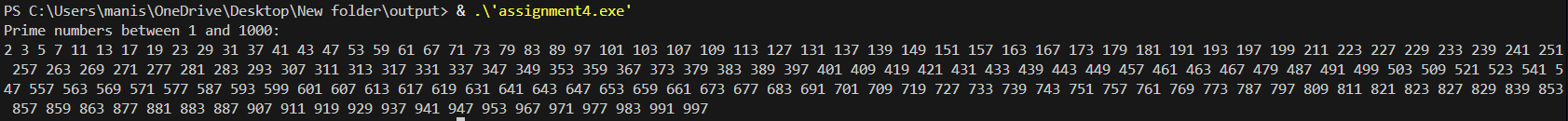
        if (is\_prime) {

            printf("%d ", num);

        }

    }

**Output:**



**// 3. check perfect number in the given range 1 to n?**

int start = 1, end = 1000;

    printf("Perfect numbers between %d and %d:\n", start, end);

    for (int num = start; num <= end; num++) {

        int sum = 0;

        for (int i = 1; i <= num / 2; i++) {

            if (num % i == 0) {

                sum += i;

            }

        }

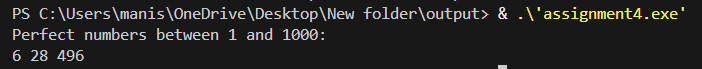
        if (sum == num) {

            printf("%d ", num);

        }

    }

**Output:**



**// 4. check strong number in the given range 1 to n?**

int start = 1, end = 1000;

    printf("Strong numbers between %d and %d:\n", start, end);

    for (int num = start; num <= end; num++) {

        int original = num, sum = 0, temp = num;

        while (temp > 0) {

            int digit = temp % 10;

            int factorial = 1;

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

                factorial \*= i;

            }

            sum += factorial;

            temp /= 10;

        }

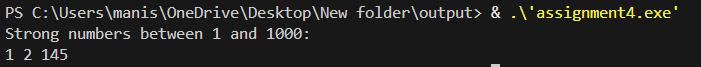
        if (sum == original) {

            printf("%d ", num);

        }

    }

**Output:**



**// 5. Print fibonacci series?(optional)**

    int no = 10;

    int first\_term = 0;

    int second\_term = 1;

    printf("Fibonacci Series up to %d term: ", no);

    for (int  i = 0; i < no; i++)

    {

        printf("%d, ", first\_term);

        int next\_term = first\_term + second\_term;

        first\_term = second\_term;

        second\_term = next\_term;

    }

**Output:**

