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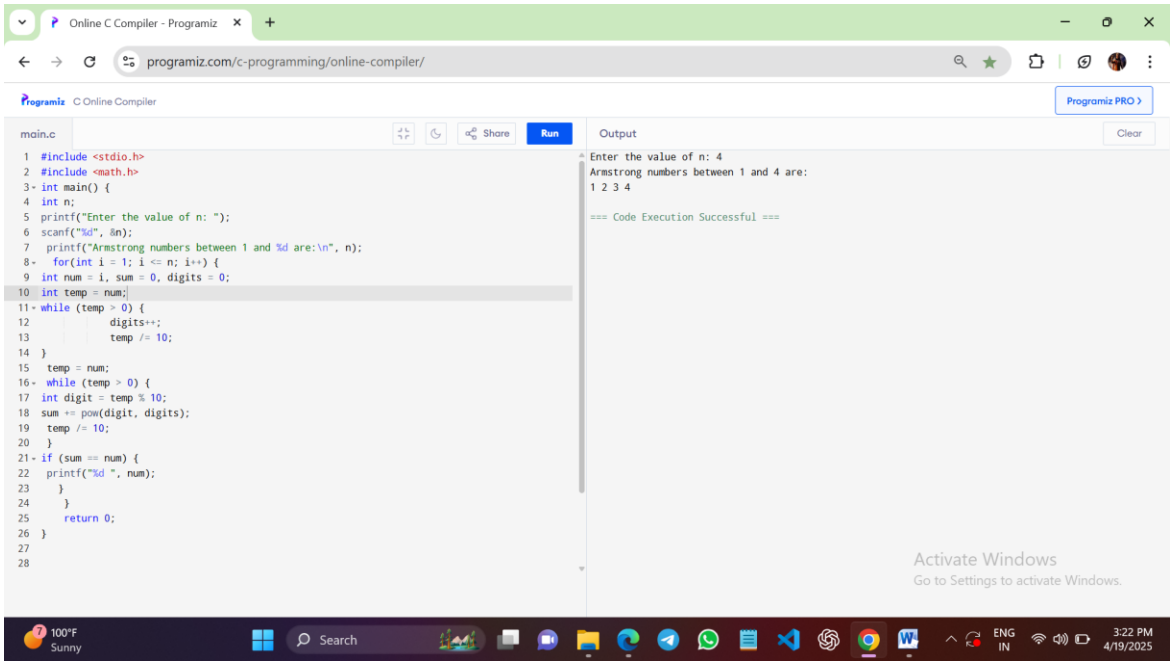
Assignment 4

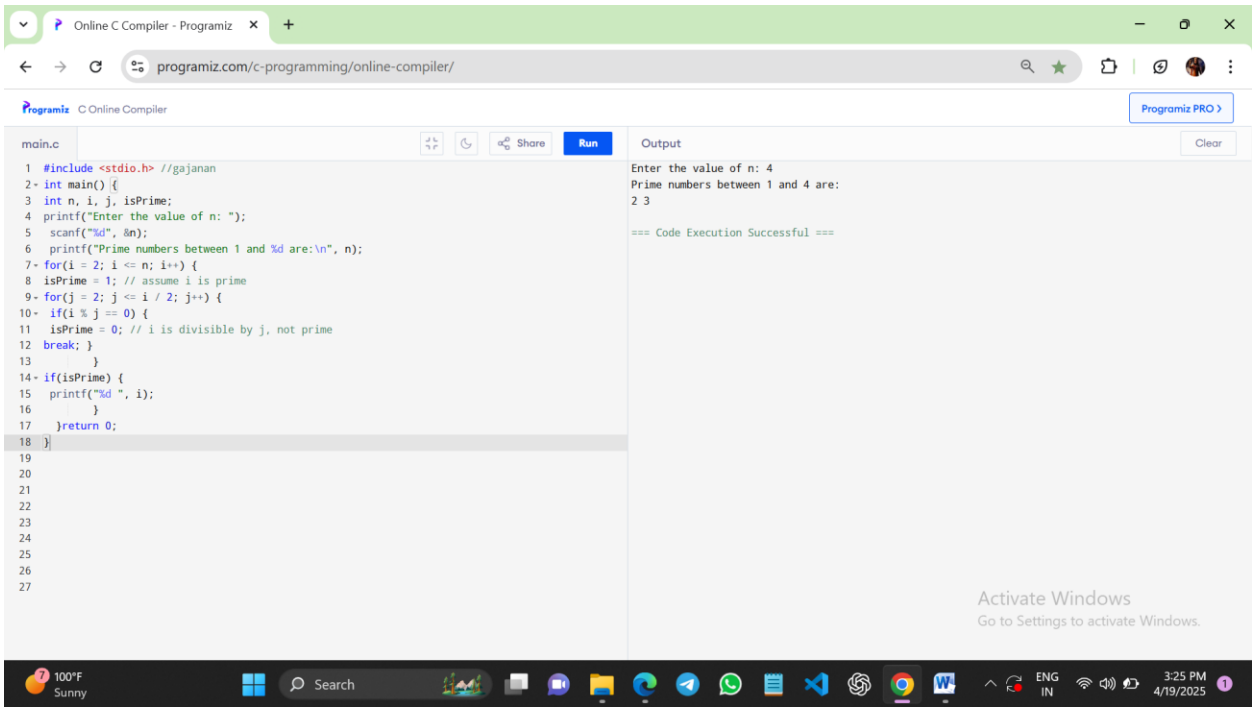
1) Print armstrong number in the the given range 1 to n?

```
#include <stdio.h>
#include <math.h>
int main() {
int n;
printf("Enter the value of n: ");
scanf("%d", &n);
 printf("Armstrong numbers between 1 and %d are:\n", n);
  for(int i = 1; i <= n; i++) {
int num = i, sum = 0, digits = 0;
int temp = num;
while (temp > 0) {
          digits++;
          temp /= 10;
}
 temp = num;
 while (temp > 0) {
int digit = temp % 10;
sum += pow(digit, digits);
 temp /= 10;
 }
if (sum == num) {
 printf("%d ", num);
   }
    }
    return 0;
}
```



2) Print prime number in the given range 1 to n?

```
#include <stdio.h> //gajanan
int main() {
int n, i, j, isPrime;
printf("Enter the value of n: ");
 scanf("%d", &n);
 printf("Prime numbers between 1 and %d are:\n", n);
for(i = 2; i <= n; i++) {
isPrime = 1; // assume i is prime
for(j = 2; j <= i / 2; j++) {
 if(i % j == 0) {
 isPrime = 0; // i is divisible by j, not prime
break; }
        }
if(isPrime) {
 printf("%d ", i);
        }
  }return 0;
}
```



3) check perfect number in the given range 1 to n?

```
#include <stdio.h>
int main() {
int n;
printf("Enter the value of n: ");
scanf("%d", &n);
printf("Perfect numbers between 1 and %d are:\n", n);
for(int i = 1; i <= n; i++) {
int sum = 0;
      for(int j = 1; j <= i / 2; j++) {
         if(i % j == 0) {
            sum += j;
         }
}if(sum == i) {
  printf("%d ", i);
      }
   }
   return 0;
}
```

4) Print fibonacci series?(optional)

```
#include <stdio.h>
int main() {
int n, a = 0, b = 1, next;
printf("Enter the number of terms: ");
scanf("%d", &n);
 printf("Fibonacci series up to %d terms:\n", n);
for(int i = 1; i <= n; i++) {
printf("%d ", a);
next = a + b;
 a = b;
b = next;
 }
 return 0;
}
```

5) check strong number in the given range 1 to n?

```
#include<stdio.h>
int factorial(int num){
int fact=1;
for(int i=1;i<=num;i++){
fact*=i;
   }
return fact;
}

int isStrong(int num){
  int original=num,sum=0;
while(num>0){
int digit=num%10;
  sum+=factorial(digit);
  num/=10;
   }
   return sum==original;
}

int main(){
```

```
    int n;
    scanf("%d",&n);
    for(int i=1;i<=n;i++){
        if(isStrong(i)){
            printf("%d ",i);
        }
    }
    return 0;
}
```