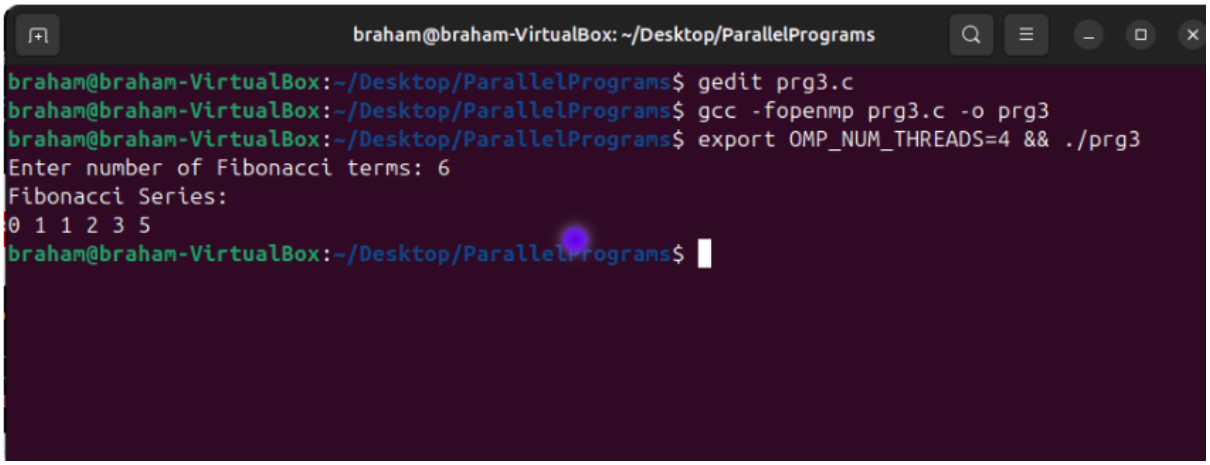
Write a OpenMP program to calculate n Fibonacci numbers using tasks.

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

int fib(int n) {
  int x, y;

  if (n < 2)
    return n;

  #pragma omp task shared(x)
  x = fib(n - 1);

  #pragma omp task shared(y)
  y = fib(n - 2);

  #pragma omp taskwait
  return x + y;
}

int main() {
  int n;

  printf("Enter number of Fibonacci terms: ");
  scanf("%d", &n);

  printf("Fibonacci Series:\n");

  for (int i = 0; i < n; i++) {
    int result;

    #pragma omp parallel
    {
      #pragma omp single
      {
        result = fib(i);
      }
    }

    printf("%d ", result);
  }

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



Write a OpenMP program to find the prime numbers from 1 to n employing parallel for directive. Record both serial and parallel execution times.

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

int is_prime(int num) {
   if (num < 2) return 0;
   for (int i = 2; i <= sqrt(num); i++) {
      if (num % i == 0)
         return 0;
   }
   return 1;
}

int main() {
   int n;
   printf("Enter the value of n: ");
   scanf("%d", &n);

   printf("\nPrime numbers from 1 to %d:\n", n);
   for (int i = 1; i <= n; i++) {
      if (is_prime(i))
         printf("%d ", i);
   }
   printf("\n");

   double start_time, end_time;
```

```
    start_time = omp_get_wtime();
    for (int i = 1; i <= n; i++) {
        is_prime(i);
    }
    end_time = omp_get_wtime();
    printf("Serial Time: %f seconds\n", end_time - start_time);

    start_time = omp_get_wtime();
    #pragma omp parallel for
    for (int i = 1; i <= n; i++) {
        is_prime(i);
    }
    end_time = omp_get_wtime();
    printf("Parallel Time: %f seconds\n", end_time - start_time);

    return 0;
}
```