1. Write a C program to:
   1. Illustrates the fork-join pattern using OpenMP's parallel directive.
   2. Illustrates the fork-join pattern using multiple OpenMP parallel directives and changing the number of threads two ways.
   3. Illustrates the single-program-multiple-data (SPMD) pattern using two basic OpenMP commands.
2. Write a OpenMP program to calculate for all the threads where is an integer value and is the thread\_Id.
3. Write a OpenMP program that performs the sum of even numbers and odd numbers in a given input array. Create a separate thread to perform the sum of even numbers and odd numbers.
4. Write a OpenMP program to implement all the four basic operations of a calculator (Add, Sub, Mul, Div). Create a separate thread to perform the operations.
5. Write an OpenMP program to perform Arithmetic operations (Add, Sub, Mul, Div) on two vectors A and B of size 4.
6. Write a OpenMP program for generating prime numbers from a given starting number to the given ending number.
7. Write a program in OpenMP to toggle the character of a given character array indexed by the thread\_Id. Print the corresponding Thread\_Id.

Example: suppose the string is “HeLLo”, then the output should be “hEllO”.

1. Write a program using OpenMp to compute the Fibonacci number for the following arrays of numbers: A={10, 13, 5, 6}. Create a separate thread to perform the operations.