

C program to find shortest distance of the given point from a set of points using multi-threading.

Read the information from sampleInput.txt using file operations.

then send the input to `coordinate_str_to_int()` function which uses `strtok()` function to convert the string input to the desirable integer input.

start the clock count using `clock()` function.

Create an array of threads using `pthread_create()` function, which calls the function `nearest_point_calculator`.

This function calculates the distance using `pow()` using the Euclidean Distance Formula.

Then the minimum distance is found among each thread.

Now all the threads are joined using `pthread_join()` function to the main kernel thread.

Stop the count of clock using `clock()` function.

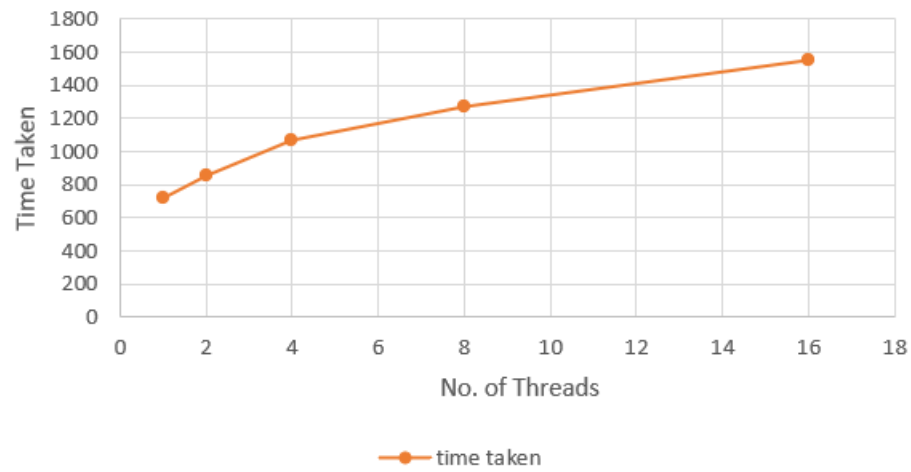
Calculate the least distance in the distances obtained after the thread joining.

Calculate time taken using the formula  $((\text{clock\_end} - \text{clock\_start}) / \text{CLOCKS\_PER\_SEC})$ .

Now print the distance as well as the time taken in microseconds.

Thus we have our program.

Varying Threads



Varying no.of points

