CS F364
Design and Analysis of Algorithms
BITS Pilani, Hyderabad Campus
Assignment -1
Due Date : 22nd March 2024 (by Midnight)
Total Marks: 45 (weightage : 15%)

Objective: In this assignment, you have to implement two convex hull algorithms. **You also have to develop a web-based visualization of the working of your algorithms.** Here is an example (for your understanding only) which computes a data structure called Voronoi Diagram. You should observe how the working of the algorithm is demonstrated in the visualization. Be creative in your assignment.

https://jacquesheunis.com/post/fortunes-algorithm/

The two algorithms you have to implement are for finding the convex hull in two dimensions. They are

1> Implementing the Jarvis March Algorithm
2> Implementing the Kirk Patrick Seidel Algorithm

As part of the Documentation you will produce:

1. Documentation of the code and its design.
2. HTML pages to document the analysis of your implementation. Comparison between the two algorithms.

Marks Distribution:

Implementation of basic algorithm: 5 + 10 = 15
Implementation of Visualization: 10
Creativity in Visualization: 2 + 8 = 10
Code design and documentation: 5
Analysis of your code: 5

General Instructions:

1. This assignment will be done in groups of max five students.
2. You will submit the code on CMS only. There will be only one submission per group.
3. **You can discuss with your friends but refrain from copying the code and submitting. Also please do not use code downloaded/referred directly from internet.**
4. You have to demo the code to the instructor on a scheduled date and timing after submission. **It is important to attend the demo, as absence from demo will amount to no credit for the assignment.**
5. **Your code may be run through a plagiarism tool and if significant amount of overlap occurs then all the similar codes will get zero credit.**
6. **Any kind of copied codes will receive zero credit.**