**FINAL PROJECT DOCUMENTATION**

A yellow hexagon with a blue and white cross and a black background

Description automatically generated**GROUP 1**

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# Description

Arrays Algorithm:

1. Kadane’s Algorithm: Algoritma ini berfungsi untuk mencari jumlah maksimum dari sebuah sub array.

2. Floyd’s Algorithm (detection Algorithm): Algoritma ini berfungsi untuk mendeteksi apakah ada sebuah siklus yang terjadi di dalam suatu linked list.

3. Knuth-Morris-Pratt (KMP) Algorithm: Algoritma ini befungsi sebagai algoritma pencocokan string yang dirancang untuk mencari sebuah pola (substring) dalam sebuah teks (string).

4. Quick Select Algorithm:

5. Boye-Moore Algorithm:

Basic Algorithm:

1. Euclidean Algorithm:

2. Huffman Algorithm:

3. Union-Find Algorithm:

# Time complexity and space complexity (Arrays Algorithm)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Algorithms | Time Complexity | | | Space Complexity |
| Best | Average | Worst |
| Kadane’s Algorithm | O(n) | O(n) | O(n) | O(1) |
| Floyd’s Algorithm (Detection Algorithm) | O(n) | O(n) | O(n) | O(1) |
| Knuth-Morris-Pratt (KMP) Algorithm | O(n + m) | O(n + m) | O(n + m) | O(m) |
| Quick Select Algorithm | O(n) | O(n) | O(n2) | O(logn) |
| Boye-Moore Algorithm |  |  |  |  |

# Time complexity and space complexity (Basic Algorithm)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Algorithms | Time Complexity | | | Space Complexity |
| Best | Average | Worst |
| Euclidean Algorithm |  |  |  |  |
| Huffman Algorithm |  |  |  |  |
| Union-Find Algorithm |  |  |  |  |

# Flowchart (arrays Algorithm)

A diagram of a process

Description automatically generatedKadane’s Algorithm:

A diagram of a flowchart

Description automatically generatedFloyd’s Algorithm (Detection Algorithm):

Knuth-Morris-Pratt (KMP) Algorithm:

A diagram of a flowchart

Description automatically generated

Quick Select Algorithm:

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Boye-Moore Algorithm:

# Flowchart (Basic Algorithm)

Euclidean Algorithm:

Huffman Algorithm:

Union-Find Algorithm: