University of Hargeisa

College of Computing and IT

Department of Computer Science

**Assignment (15%)**

**Design and Analysis of Algorithms**

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**Assignment Instructions:**

You are tasked with a critical assignment that requires careful research, analysis, and detailed documentation. Below are the instructions and guidelines to ensure the quality and professionalism of your submission:

**Instructions:**

1. **Research and Literature Review:**
   Gather a sufficient number of relevant reference materials and review them in detail.

2. **Document Preparation:**

Your written document must include the following sections:

   I.   Introduction: Provide an overview of your chosen topic, setting the context for your review.

   II.  Detailed Literature Review: Summarize and analyze the reference materials related to your topic.

   III. Critique: A Critical Review:

Highlight the strengths and weaknesses of the reviewed literature.

IV.    The Algorithm and Its Pseudocode: Explain the key algorithm related to your topic and provide its pseudocode.

V.    Complexity Analysis and Discussion: Analyze the algorithm's computational complexity and discuss its efficiency.

VI.    Conclusion: Summarize your findings and provide insights or recommendations based on your review.

VII.    References: Provide a complete list of all the references cited in your work, formatted according to IEEE style.

3. **Writing Style and Format:**

- Write the Introduction, Critique, Analysis, and Conclusion sections in your own words to demonstrate your understanding.
- Include a full citation of the referenced article at the top of each page below the heading.
- Be concise and avoid unnecessary or superfluous information.

4. **Formatting Guidelines:**

I.    Font: Times New Roman

II.    Font Size: 12

III.    Font Color: Black

IV.    Line Spacing: 1.5

V.    Alignment: Full justification

VI.    References: Use IEEE format

This assignment is critical and demands a high level of academic rigor. Ensure your work is well-structured, clear, and adheres to the provided guidelines.

All assignments must be submitted on or before **February 5th 2025** via my official email: suleiman.gargaare@uoh.edu.so Please ensure your submission adheres to the provided guidelines and is sent on time.

Best of luck, and I look forward to reviewing your submissions!

| **4E - Grouping with their Titles** | | | |
|---|---|---|---|
| 1 | Abdifatah Hassan Jama | **Group 1**<br><br>Shell Sort | |
| 2 | Abdirahman Hassan Jama Ali | | |
| 3 | Aisha Abdulla Ali | | |
| 4 | Amin Sead Ismail | | |
| 5 | Asia Omar Ismail Jama | | |
| 6 | Asma Ismail Osman | | |
| 7 | Awo Maxamed Askar | | |
| | | | |
| 1 | Badriya Maxamed Xuseen Cilmi | **Group 2**<br><br>Heap Sort | |
| 2 | Bahja Maxamed Sh.Maxamed | | |
| 3 | Balqiisa Cumar Axmed Maygaag | | |
| 4 | Cabdikhaaliq Maxamed Jaamac | | |
| 5 | Cabdimajid Cabdirisaaq Maxamed | | |
| 6 | Cabdinaasir  Khadar Faarax Cali | | |
| 7 | Cabdirahman Cabdilaahi Xusseen | | |
| | | | |
| 1 | Cabdiraxamaan Maxamed Muxumed | **Group 3**<br><br>Cycle Sort | |
| 2 | Cabdirisaaq Axmed Cabdiraxamaan | | |
| 3 | Cabdirisaaq Yuusuf Mire Cabdi | | |
| 4 | Cabdisamad Cali  Maxamuud Cabdi | | |
| 5 | Cawil Xasan Yuusuf Cabdi | | |
| 6 | Cumar Cismaan Cali  Ibraahim | | |
| 7 | Faysal Cabdiqaadir Cumar Cabdi | | |
| | | | |
| 1 | Hana Axmed Biixi Gudal | **Group 5** | |
| 2 | Hana Muuse Axmed Ibraahim | | |
| 3 | Hodan Maxamed Liibaan Ismaaciil | | |

| | | |
|---|---|---|
| **4** | Hoodo Abdi Jama Samater | Tim Sort |
| **5** | Hoodo Muxumed Cilmi Ibraahim | |
| **6** | Ibraahim Maxamed Axmed | |
| **7** | Ikraan Maxamed Cismaan Ibraahim | |
| | | |
| **1** | Isra Cabdikariim Axmed Gudaal | **Group 6** |
| **2** | Khalid Mohamed Awil | |
| **3** | Khalid Mubarik Mohamed | Bogo Sort |
| **4** | Liibaan Cabdiraxamaan Xasan Ismaaciil | |
| **5** | Maxamed Abshir Cali  Nuur | |
| **6** | Maxamed Axmed Maxamuud Cumar | |
| **7** | Maxamed Cabdilaahi Muuse Ibraahim | |
| | | |
| **1** | Maxamed Maxamuud Ibraahim | **Group 7** |
| **2** | Maxamed Maxamuud Maxamed | |
| **3** | Mohamed Ahmed Hassan Hersi | Comb Sort |
| **4** | Mubarig Suleiman Elmi | |
| **5** | Muuse Ismaaciil Muuse Ildab | |
| **6** | Nagib Osman Derie Egeh | |
| | | |
| **1** | Salaad Xuseen Kaariya Jaamac | **Group 8** |
| **2** | Salman Abdi Hassan | |
| **3** | Siciid Cumar Maxamuud Cige | Intro Sort |
| **4** | Suhayb Maxamed Cali  Nuur | |
| **5** | Xaawa Maxamuud Liibaan Maxamed | |
| **6** | Mohamed  Ibrahim  Abdillahi  Ali | |

## PRESENTATION SCHEDULE OF THE ASSIGNMENT

The schedule of the presentation will be:

| Group Name | Time | Date |
| --- | --- | --- |
| Group 1 | 16:30 – 16:45 | Sunday 9th Feb, 2025 |
| Group 2 | 16:45 – 17:00 | Sunday 9th Feb, 2025 |
| Group 3 | 17:15 – 17:20 | Sunday 9th Feb, 2025 |
| Group 4 | 17:20 – 17:35 | Sunday 9th Feb, 2025 |
| Group 5 | 17:35 – 18:00 | Sunday 9th Feb, 2025 |
| **Break** | | |
| Group 6 | 18:30 – 18:45 | Sunday 9th Feb, 2025 |
| Group 7 | 18:45 – 19:00 | Sunday 9th Feb, 2025 |

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*Note: The lecturer will select the presenters from each group on the day of the presentation. The remaining group members will be responsible for answering questions related to their specific topic.*