Initial Project Plan (week 10, submission date: 26th May 2023)

<table>
<tr><td>Group Name</td><td>Winner winner chicken dinner</td></tr>
<tr><td>Members</td><td>
<table>
<tr><td>Name</td><td>Email</td><td>Phone number</td></tr>
<tr><td>Izza Syahirah Mokhtar</td><td>213061@student.upm.edu.my</td><td>0123880070</td></tr>
<tr><td>Alya Humaira</td><td>211672@student.upm.edu.my</td><td>01161154907</td></tr>
<tr><td>Noor Wajihah</td><td>212888@student.upm.edu.my</td><td>0126288995</td></tr>
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</td></tr>
<tr><td>Problem scenario description</td><td>When organising a contest, promotion, or sales event, the participants must be qualified to enter the contest and fulfil all the requirements, hence, it is easier for the organiser to pick the winner. But how about an event where the winner is determined based on their spending amount?</td></tr>
<tr><td>Why it is important</td><td>The qualified winner can be shortlisted by the organiser, and it will be much easier to find a final winner.</td></tr>
<tr><td>Problem specification</td><td>In this project, we would like to find the top spending customers by using divide and conquer algorithms to solve this problem.</td></tr>
<tr><td>Potential solutions</td><td>By using the divide and conquer method, we can split the dataset of buyers’ transactions into a smaller subset, and from that, we can find the top spending customer from the subset. Then we will combine the results to accurately determine the top spending customer.</td></tr>
</table>

Sketch (framework, flow, interface)	<u>Flow</u> 1. Divide Participants: Based on their spending amounts, divide the participants into smaller groups or categories. This separation can be accomplished in a variety of ways, including the creation of spending tiers or the division of participants into equal-sized groups. 2. Determine Winners Within Each Group: Divide and conquer each group to discover the winner(s) within that specific spending category. This can be accomplished by comparing the spending amounts of each group's participants and picking the participant(s) with the highest spending. 3. Assemble Winners: Once the winners in each expenditure category have been identified, aggregate the winners from all groups to determine the event's ultimate overall winner(s). This can be accomplished by comparing the spending amounts of each group's winners and picking the participant(s) with the highest overall spending. 4. Declare the Winner: Announce the event's eventual winner(s) based on the highest total spending. Notify the winner(s) and publicise the announcement through various means. 5. Prize Distribution: As indicated in the event rules, arrange for the distribution of awards to the eventual winner(s). Collect any information required from the winner(s) for shipping or digital delivery.

Project Proposal Refinement (week 11, submission date: 2nd June 2023)

<table>
<tr><td>Group Name</td><td>Winner winner chicken dinner</td></tr>
<tr><td>Members</td><td>
<table>
<tr><th>Name</th><th>Role</th></tr>
<tr><td>Izza Syahirah</td><td>Project Leader</td></tr>
<tr><td>Alya Humaira</td><td>Project Manager</td></tr>
<tr><td>Noor Wajihah</td><td>Crew</td></tr>
</table>
</td></tr>
<tr><td>Problem statement</td><td>The participants in a contest, promotion, or sales event must be eligible to enter and meet all rules; as a result, it is simpler for the organiser to choose the winner. What about a competition where participants are ranked according to how much they spend?</td></tr>
<tr><td>Objectives</td><td>To find the highest spending amount among buyers (participants) for determining the winner of the contest.</td></tr>
<tr><td>Expected output</td><td>A sorted buyers list according to their spent amount</td></tr>
<tr><td>Problem scenario description</td><td>If an organiser wants to find winners based on their spending amount of their product, it would be hard for the organiser to find due to the vast amount of transactional data. As a result, you must create a solution that effectively uses the divide and conquer method to identify the top spenders.</td></tr>
<tr><td>Why it is important</td><td>To ease the organiser’s work to find winners among all participants.</td></tr>
<tr><td>Problem specification</td><td>A large dataset is given based on the participants’ data transaction that has been collected. We will need to identify the top spending customer based on the dataset.</td></tr>
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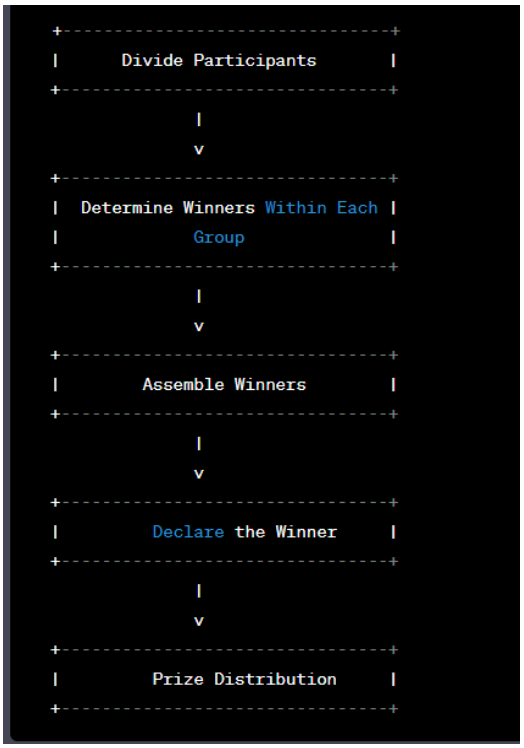
<table>
<tr><td>Potential solutions</td><td>We can effectively identify the top-spending consumers by breaking the dataset into smaller subsets, iteratively finding the highest spenders in each subgroup, and then combining the results.</td></tr>
<tr><td>Sketch (framework, flow, interface)</td><td> 
</td></tr>
<tr><td>Methodology</td><td><table>
<tr><td>Milestone</td><td>Time</td></tr>
<tr><td>Editing and running the coding to look if there are any problems with the coding.</td><td>20/5(wk9)</td></tr>
<tr><td><discussing project></td><td>3/6 (wk11)</td></tr>
<tr><td><editing and running code></td><td>9/6 (wk12)</td></tr>
<tr><td><prepare online portfolio></td><td>10/6 (wk13)</td></tr>
<tr><td><last check portfolio, prepare presentation></td><td>13/6 (wk13)</td></tr>
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Project Progress (Week 9 – Week 14)

<table>
<tr><td>Milestone 1</td><td>Discussing about project title and content</td></tr>
<tr><td>Date (Wk)</td><td>20th May 2023 (Week 10)</td></tr>
<tr><td>Description/
sketch</td><td>- Discuss about what project to do and which one is the most suitable</td></tr>
<tr><td>Role</td><td>
<table>
<tr><td>Member 1</td><td>Member 2</td><td>Member 3</td></tr>
<tr><td>Izza - Give idea about project title</td><td>Alya - Give idea about project content</td><td>Wajihah - Give idea about project content</td></tr>
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<table>
<tr><td>Milestone 2</td><td>Look for some identical projects to compare with what we have been discussing.</td></tr>
<tr><td>Date (Wk)</td><td>3rd June 2023 (Week 11)</td></tr>
<tr><td>Description/

sketch</td><td>- Discuss on what to do
- Manage to find similar coding on Divide and Conquer and Dynamic Programming.
- Found inspiration from the projects.</td></tr>
<tr><td>Role</td><td><table><tr><td>Member 1</td><td>Member 2</td><td>Member 3</td></tr><tr><td>Izza - do research code</td><td>Alya - do note taking on roles</td><td>Wajihah - do analysis of code</td></tr></table></td></tr>
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<table>
<tr><td>Milestone 3</td><td>Editing and running the coding to look if there are any problems with the coding.</td></tr>
<tr><td>Date (Wk)</td><td>9th June 2023 (Week 12)</td></tr>
<tr><td>Description/

sketch</td><td>- Do coding for divide and conquer and dynamic programming.
- Add more methods to calculate speed for each algorithm to compare.</td></tr>
<tr><td>Role</td><td><table>
<tr><td>Member 1</td><td>Member 2</td><td>Member 3</td></tr>
<tr><td>Izza - do code together</td><td>Alya - do code together</td><td>Wajihah - do code together</td></tr>
</table></td></tr>
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<table>
<tr><td>Milestone 4</td><td>Prepare portfolio (report)</td></tr>
<tr><td>Date (Wk)</td><td>10th June 2023</td></tr>
<tr><td>Description/

sketch</td><td>- We do pseudocode for both divide and conquer and dynamic programming
- We do analysis of an algorithm
- We do problem statement</td></tr>
<tr><td>Role</td><td>
<table>
<tr><td>Member 1</td><td>Member 2</td><td>Member 3</td></tr>
<tr><td>Izza - do analysis of an algorithm</td><td>Alya - do pseudocode for divide and conquer</td><td>Wajihah - do pseudocode for dynamic programming</td></tr>
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<table>
<tr><td>Milestone 5</td><td>Last check project and prepare slides</td></tr>
<tr><td>Date (Wk)</td><td>13th June 2023</td></tr>
<tr><td>Description/

sketch</td><td>- We do manual calculation for divide and conquer
- We do development of model for portfolio
- Upload demo video in github
- Prepare slides</td></tr>
<tr><td>Role</td><td>
<table>
<tr><td>Member 1</td><td>Member 2</td><td>Member 3</td></tr>
<tr><td>Izza - screen record and edit demo video, prepare slides</td><td>Alya - do model development , prepare slides</td><td>Wajihah - do the manual calculation, prepare slides</td></tr>
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