UECS2083/UECS2413/UECS2453 Problem Solving with Data Structure and Algorithms

In the Job-Sequencing Problem, it will be given a set of N jobs where each job comes with a deadline and profit. Only when the task is completed by the deadline will the profit be earned. Determine the total number of completed projects and the maximum profit that can be made. Only one task can be completed at a time, and each task requires a single unit of time. The following are the real life job-sequencing problems that we might face. We create a virtual persona for our example of real-life problems. Mira is a **free-lanced artist**. She would accept people's art commissions on social media. People will send their art requests to her on social media and pay her after she completed the art drawing. However, due to time restrictions, she could only accept a few of them. Thus, she needs to **choose the art commission that gives the higher price to achieve maximum profits** as she does it for living if the art drawings deadlines fall on the same week. She needs to sequence the request from people and pick the higher art commission given if the deadline falls on the same week.

Assumption:

1. The amount of art requests that Mira received is the data that we used.
2. One week is required for Mira to complete each of her drawings.
3. Mira only focuses on one drawing per time.
4. Mira could only accept four jobs in a month.
5. Mira only chooses one of the drawings if there is a deadline of drawings conflicted on the same date.
6. The deadline 1 week in the table of data denotes the first week of the month the art has to be completed by Mira.
7. The data provided is the number of art commissions received by Mira in September.

Table of Data

	Art1	Art2	Art3	Art4	Art5	Art6	Art7
Deadline(Week)	1	2	3	2	4	4	1
Profit	500	250	350	1000	150	550	400