

Background Information

Norwest is a small chain of mini supermarkets serving small towns in the North West of England.

The manager of the head office has ten jobs which need to be completed this week.

Each employee works 30 hours per week. The jobs can be done in any order by any employee.

Each job can only be done by one person. Jobs can not be split or divided.

The jobs

Job	Time required to complete the job (minutes)
A: Organise what is to be delivered to each store this week	16
B: Decide what store will get deliveries each day	12
C: Write down which goods are returned from each store	14
D: Check how much money each store has taken this week	10
E: Order new stock for next week	18
F: Check who is working in each store next week	8
G: Clean the offices	6
H: Write adverts on social media	12
I: Pay all the bills for the goods received last week	10
J: Organise the pay to make sure all workers get paid the correct amount	12

Task One

How many employees are required?

Robyn thinks 4 employees will be needed. This is because the total number of hours required is 118. If you divide 118 by 30 you get 3.93 which means that we will need 4 employees.

Explain whether you think Robyn is correct?

Can you think of a reason why the tasks may not be able to be completed by four people?

Task Two

Schedule the employees

Complete the following tables showing which employee completes which job using:

- 1 - a first fit algorithm
- 2 - a first fit decreasing algorithm

	Hours																													
Employee	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Alice																														
John																														
Ali																														
Jasmin																														
Robyn																														

	Hours																													
Employee	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Alice																														
John																														
Ali																														
Jasmin																														
Robyn																														

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