



Algorithms and programming project

Designing and implementing an ordering system

The local ice-cream store needs a new ordering system to improve customer service by streamlining the ordering process. It is also required to make it easier for staff so they will not have to calculate price based on the various choices available to customers. The customer will know before they have finalised the order if they can afford to pay for the order or not.

At present, the customer selects what to put the ice-cream in: a cone type, plain or waffle, or a cup. The customer also chooses how many scoops – if more than one scoop they can choose to either have two scoops of one flavour – or each scoop a different flavour. There are currently eight flavours to choose from.

The management are hoping to have a system developed where customers enter their order at stations where the price is calculated – this order is then sent to the staff at the counters who fill it and complete the sale with the customer.

Collecting the data

Who should be consulted in creating a solution? What data do you have? What else do you need? If you don't have the data available you can determine what it is most likely to be and use that, e.g. prices.



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Defining the solution

Write out an algorithm that outlines the solution to the ordering process. Break the problem into chunks. Based on the solution you design, what kind of hardware and software will you require? What will be the role and function of each?

Implementing

- > Create a flowchart that represents the algorithm.
- > Write out your flowchart in structured English.
- > How does your solution fit with the steps in the information processing cycle (mentioned in Module 1)?



Practice IT

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Evaluating, collaborating and managing

- 1 Look at the result of your work. Has it worked as you had planned? Can you improve it in any way?



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- 2 Ask your friends and classmates to look at your design and provide you with feedback. How robust is your solution – will the solution work if the number of flavours is increased? What if there is a change in cones, etc.?
