

The fetch decode execute cycle

Task 1

Use the Internet to research the fetch decode execute cycle. Describe how it works and where it is used.

Task 2

Describe at each stage of the process how the following registers are affected:

Program counter (PC)

Memory data register (MDR)

Memory address register (MAR)

Current instruction register (CIR)

Accumulator (ACC)

The buses

Arithmetic logic unit (ALU)

Control unit (CU)

Task 3

Use the animation features in PowerPoint or Flash to create an animation showing how two numbers would be loaded from memory and added together using the Fetch decode execute cycle

Programming Task

Use your programming knowledge to program a Bubble Sort in Visual Basic using Visual Studio

Task 1

Generate 100,000 unique random integers between 1 and 1,000,000 and store them in an array

Task 2

Program a Bubble Sort to sort them both ascending and descending depending on the user's choice

Task 3

Find the average time it takes to sort ten different sets of random numbers

Task 4

Optimise your Bubble Sort to reduce the time it takes to sort the integers