PS: Computational Thinking

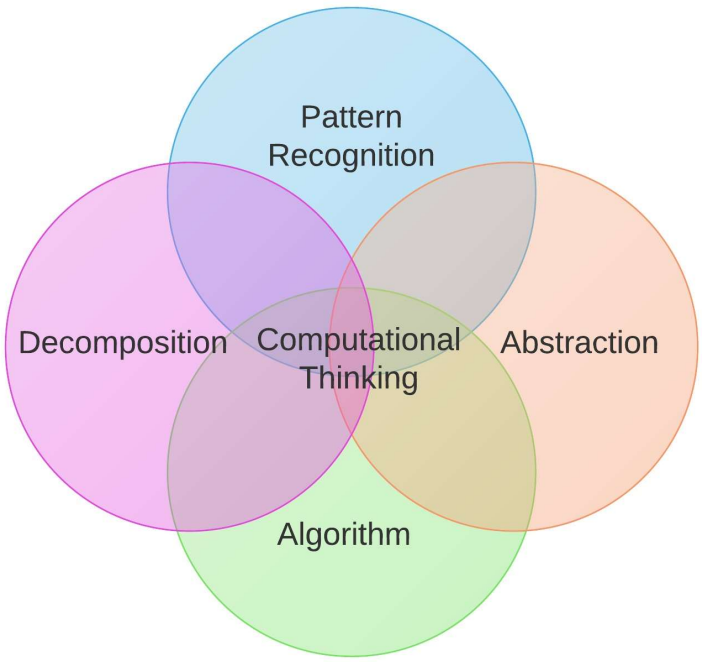
General problem solving strategy : computational thinking

Computational thinking is a problem solving framework that is particularly well suited to complex problems that permit digital solutions. Used as an abstract framework, however, computational thinking has value in cross disciplinary applications as well as those applications that do not require computing power.

We will take a framework approach to computational thinking here, and then re-visit computational thinking as a computer science focused approach.

As a general framework, computational thinking has four key characteristics:

- decomposition - breaking down a complex problem into smaller, more manageable parts
- pattern recognition – looking for similarities among and within a problem
- abstraction – focusing on the important information only, ignoring irrelevant detail
- algorithm - developing a step-by-step solution to the problem



Many conceptual frameworks become more clear when applied in a practical setting. In the following brief exercise, you will work in a small group to solve a problem using computational thinking.