CS6102- Computational Thinking

Week 6 (Dec 22, 2022)

Decomposition

Aim : To learn to decompose a problem to smaller problems

Activity 1:

Assume there is a team of 10 people. If the team is asked to search for a toy kept hidden in any of the rooms in the department, design a strategy to search for the toy.

Will the same strategy be a good one if there are 20 people in the team? Can you think of a better strategy?

Will the same strategy be a good one if there are 4 people in the team? Can you think of a better strategy?

Activity 2:

You're planning to hold a birthday picnic for a child and her friends. Break down the preparation into a tree structure of tasks. The facts are:

A. You need to send out the invitations to the parents of the other children.

B. Food you'll provide: sandwiches (ham, chicken, and cheese), homemade cake.

C. Fresh ingredients (meat and dairy) need to be purchased on the day.

D. Other things you need to take: disposable cutlery, blankets, games.

E. The park where the picnic is held requires you to reserve a spot.

F. All guests will get a goody bag with sweets when they leave.

Activity 3:

Decomposition: Decompose these problems into all the smaller problems that would need to be solved. Use a bullet-point for each smaller step.

Plan your travel to an international destination

Pick the best smartphone for your grandparents

Decorate your front room

Washing a car

Making a Ïamily meal