Basics of Greedy Algorithms

Introduction

In an algorithm design there is no one 'silver bullet' that is a cure for all computation problems. Different problems require the use of different kinds of techniques. A good programmer uses all these techniques based on the type of problem. Some commonly-used techniques are:

1. Divide and conquer
2. Randomized algorithms
3. Greedy algorithms (This is not an algorithm, it is a **technique**.)
4. Dynamic programming

What is a 'Greedy algorithm'?

A greedy algorithm, as the name suggests, **always makes the choice that seems to be the best at that moment**. This means that it makes a locally-optimal choice in the hope that this choice will lead to a globally-optimal solution.

How do you decide which choice is optimal?

Assume that you have an **objective function** that needs to be optimized (either maximized or minimized) at a given point. A Greedy algorithm makes greedy choices at each step to