

COSC 311: ALGORITHMS

MINI 5

Due Wednesday, October 10 in class

1. Making Change. Consider the following non-standard coin denominations:

1¢ 4¢ 7¢ 12¢

Suppose we are making change for 33¢.

(a) What set of coins will the greedy algorithm output?

(b) Is this optimal? If not, what is the optimal way to make change for 33¢ using this set of coins?

2. When is greedy good? What does it mean for a problem to have the optimal substructure property?