UNIVERSITY OF CALGARY

CPSC 319
Data Structures, Algorithms, and Their Applications

Winter 2024

Question 28

- Given an integer array of **coins** of size **n** representing different types of coin and an integer **m**, the task is to check if it is possible to pick some **coins** so the sum of the picked **coins** is equal to **m** (assume that you have an **infinite supply** of each type of coin).

- coins = [2, 3], m = 7 -> Yes
- coins = [3, 6, 8], m = 10 -> No
- coins = [3, 5, 11], m = 97 -> Yes

Question 29

- Given an integer array of **coins** of size **n** representing different types of coin and an integer **m**, the task is to find one combination of **coins** to make a given value **m** (assume that you have an infinite supply of each type of coin).

- coins = [2, 3], m = 7 -> [2x2 1x3]
- coins = [3, 6, 8], m = 10 -> Not Possible
- coins = [3, 5, 11], m = 97 -> [29x3 2x5]

Question 30

- Given an integer array of **coins** of size **n** representing different types of coin and an integer **m**, the task is to count all combinations of **coins** to make a given value **m** (assume that you have an infinite supply of each type of coin).

- coins = [2, 3], m = 7 -> 1
- coins = [3, 6], m = 6 -> 2
- coins = [3, 5, 11], m = 97 -> 34