East West University

Department of Computer Science and Engineering

Course: CSE246 Algorithm Topic: Dynamic Programming (Part-01) Lab: 05

1. 0-1 Knapsack: You are given a set of items, each with a weight and a value, and a knapsack with a maximum weight capacity. Your task is to determine the maximum value that can be obtained by selecting a subset of the items to fit into the knapsack without exceeding its weight capacity.

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| --- | --- |
| Sample input | Sample output |
| 4  2 3  3 4  4 5  5 6  8 | 9 |

1. Sum-of-Subset: Given a set of positive integers and a target sum, your task is to determine whether there exists a subset of the given set whose elements sum up to the target sum.

|  |  |
| --- | --- |
| Sample input | Sample output |
| 5  1 3 5 7 9  12 | Yes |

1. Coin change: You are given n types of coins and another number K. Your task is to determine whether it is possible to generate K using those coins if
2. The number of each coin is infinite.
3. The number of each coin is finite.