

CSE 202 Final

Olcay Taner YILDIZ

I. QUESTION (SORTING) (20 POINTS)

Suppose arrays A and B are both sorted. Write a function that works in linear time and finds if A is a subset of B.

```
boolean isSubset(int[] A, int[] B)
```

II. QUESTION (SORTING) (15 POINTS)

Suppose you are given an array of N integers containing the number of credits the students take in this semester. Write a linear time algorithm to sort these credits.

```
void sortCredits(int[] A)
```

III. QUESTION (SORTING) (15 POINTS)

Suppose you are given an array of N integers sorted in increasing order. Write a linear time algorithm to convert this array sorted in decreasing order.

```
void convertDecreasingOrder(int[] A)
```

IV. QUESTION (LINKED LIST) (15 POINTS)

Write a function to delete the nodes indexed between p and q from a singly linked list.

```
void deleteBetween(int p, int q)
```

V. QUESTION (TREES) (15 POINTS)

Write a function that computes the products of all keys in a binary search tree.

```
int productOfTree()
```

VI. QUESTION (GRAPH) (20 POINTS)

Write a function that checks if the graph is fully connected or not. Write the function for both adjacency matrix and adjacency list representations.

```
boolean isFullyConnected()
```