BIL 108 - Computer Programming
LW – 10
11.05.2012

In this week we will write recursive functions working on integers and sets represented by integer arrays.

PART 1(2 Pts) Write a **recursive** function "isElement" which determines if a given integer is an element of a given set. The set will be represented by an integer array.

PART2 (1Pts) Write a **recursive** function "isDisjoint" which determines if given 2 sets are disjoint. The sets will be represented by integer arrays.

PART3 (1Pts) Write a **recursive** function 'getNumOfDigits' which returns the number of digits of a given integer.

PART4 (1Pts) Write a **recursive** function "intRecReverser" which returns the reversed form of a given positive integer. The function will require the number of digits of the integer, so it will have the following prototype:

```
int intRecReverser(int number, int numOfDig).
```

Because this function needs extra information other than required to solve the problem, it is not good function from the perspective of the caller. Similar cases happen frequently when working with recursive functions. Wrapper functions which call the recursive functions with proper arguments and provide a better interface to the user are employed in such cases. Write a wrapper function 'intReverser' with the following prototype:

```
int intReverser(int number)
```

which obtains the number of digits from 'getNumOfDigits' and calls intRecReverser with proper parameters.

BONUS (1 Pts) Write a **recursive** function "isSet" which determines if a given integer array can represent a set. As you know, each element can occur only once in a set. Therefore, your function will check any duplication.