

**Information Storage and Retrieval Course, Year 2022/2023**

**Task (4)**

- 1- Create a user-defined function which takes a value and returns its hash key using the following hash function.

$$h(v) = v \% m$$

Where m is the size of input list / number of all elements, v is the value

Hint: declare a function hash\_key(v,m)

Example: m=7, v=3 -->  $h(1) = 3 \% 7 = 3$

$$m=7, v=2 \rightarrow h(1) = 2 \% 7 = 2$$

- 2- Write a python program that constructs a hash table for a list of the following integers and ask the user to choose one of four choices:

Value\_list=[3,2,9,11,7]

Choice number 1: Construct the whole hash table using the function defined in Q1

Choice number 2: Add a new element to the hash table

Choice number 3: Update a value of a certain key

Choice number 4: Delete an element from the hash table

Choice number 5: Search for an element in the hash table

Choice number 6: print All elements with their keys of the hash table

**Bonus:**

Tokenize, stem, and remove the stop words from the dataset.

**Remarks:**

- Due Date is Sunday 26/3/2023.
- Solve this task **individually**.