

Assignment 1

Published at: 13:00, Friday, 28.01.2022

Deadline: 13:00, Friday, 04.02.2022

1. Suppose you're looking for a word in the following dictionaries. In the worst case how many steps do you think the search will take with **Binary Search**?

- a) Persian dictionary with **171476** words
 - b) English dictionary with **1100373** words
 - c) Chinese dictionary with **260000** words
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2. Write a class called `Student` that has two following methods:

- Method 1: `__init__()` that receives name, age and country of a student and sets them as instance variables.
- Method 2: `greeting()` that prints the following message for a student whose name is Sara, 25 years old and from Norway:

```
student = Student("Sara", 25, "Norway")
student.greeting()
```

[Output]

```
Hei! my name is Sara
I am 25 years old.
I am from Norway.
```

3. Given the following linked-list class, write a method called `print_list()` that loops over and prints the entire contents of a linked-list starting from head.

```
class LinkedList:

    def __init__(self):
        self.head = None
```

4. Write a function `reverse_list()` that receives a Python list, builds a Stack with the same elements, and prints the **reversed** list.

[Hint]: you can find the implementation of Stack in the slides of Lecture 2.

```
my_list = [1, 2, 3, 4, 5]
reverse_list(my_list)
```

[Output]:

```
[5, 4, 3, 2, 1]
```