

## Topics:

Dictionaries.

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### 1. Kazakh-English Dictionary

Create a dictionary with at least 10 items inside it. Write a program that displays a menu repeatedly with the following options:

- a) *Search* (lookup a word for it's translation);
- b) *Add* (add a new word to the existing dictionary);
- c) *List* (list all the words in the dictionary).

#### Ex:

```
>>> kaz_eng()
Welcome to Kaz-Eng Dictionary!
=====

Choose one:
1 - Search
2 - Add
3 - List
4 - Exit
-----

Number of option: 1
Search: алма
apple
=====

Choose one:
1 - Search
2 - Add
3 - List
4 - Exit
-----

Number of option: 4
Goodbye!
```

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### 2. Maximum Occurrence 2

Write a function that gets a string as an argument and returns the letter with the maximum occurrence in it. (No lists, just dictionary!)

#### Ex:

```
>>> s = 'Astana'
>>> print(most_used2(s))
'a'
```

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### 3. Exceptions

Modify your solution to Task-1 (*Kazakh-English Dictionary*) so that a `LookupError` is raised if the user searches for a word that is not in the dictionary.

#### Ex:

```
=====

Choose one:
```

```
1 - Search
2 - Add
3 - List
4 - Exit
```

-----

Number of option: 1

Search: алмұрт

Traceback (most recent call last):

File "<stdin>", line ?, in ?

LookupError: No such word in the dictionary

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#### 4. Fibonacci Time

Write another version of Fibonacci function that uses dictionary (Section 11.6 in the textbook). Compare the running time to the previously written version that uses simple recursion only.

**Hint:** you may need to use the `time` module again.