1- Write a program that checks if the word "apple" is in the dictionary.

اكتب برنامجًا يتحقق من وجود كلمة "apple" في القاموس.

{"hello", "hi", "ok"}

Output

```
The word 'apple' is not in the dictionary.
```

Solution

```cpp
//www.gammal.tech
#include<iostream>
#include<string>
#include<vector>

using namespace std;

vector<string> dictionary = {"hello", "hi", "ok"};

bool check(string word) {
    for(int i = 0; i < dictionary.size(); i++)
        if(word == dictionary[i])
            return true;
    return false;
}

int main() {
    if(check("apple"))
        cout << "The word 'apple' is in the dictionary." << endl;
    else
        cout << "The word 'apple' is not in the dictionary." << endl;

    return 0;
}
```

2- Create a program that suggests the correct word for "hlo" from the dictionary.

قم بإنشاء برنامج يقترح الكلمة الصحيحة لـ "hlo" من القاموس.

{"hello", "hi", "ok"}

Output

```
The closest correct word to 'hlo' is: hello
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>
#include<vector>

using namespace std;

vector<string> dictionary = {"hello", "hi", "ok"};

string correct(string word) {
    int maxCount = 0;
    string closestWord = "";

    for(int i = 0; i < dictionary.size(); i++) {
        int count = 0;
        for(int j = 0; j < dictionary[i].size(); j++)
            for(int k = 0; k < word.size(); k++)
                if(dictionary[i][j] == word[k])
                    count++;

        if(count > maxCount) {
            maxCount = count;
            closestWord = dictionary[i];
        }
    }

    return closestWord;
}

int main() {
    cout << "The closest correct word to 'hlo' is: " << correct("hlo") << endl;

    return 0;
}
```

3- Write a program that adds the word "good" to the dictionary.

<div dir="rtl">اكتب برنامجًا يضيف كلمة "good" إلى القاموس.</div>

{"hello", "hi", "ok"}

Output

```
The word 'good' has been added to the dictionary.
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>
#include<vector>

using namespace std;

vector<string> dictionary = {"hello", "hi", "ok"};

void addToDictionary(string word) {
    dictionary.push_back(word);
}

int main() {
    addToDictionary("good");
    cout << "The word 'good' has been added to the dictionary." << endl;

    return 0;
}
```

4- Create a program that prompts the user to enter a word and checks if it is in the dictionary.

<div dir="rtl">قم بإنشاء برنامج يطلب من المستخدم إدخال كلمة والتحقق من وجودها في القاموس.</div>

Input

```
Enter a word: gammal
```

Output

```
The word 'gammal' is not in the dictionary.
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>
#include<vector>

using namespace std;

vector<string> dictionary = {"hello", "hi", "ok"};

bool check(string word) {
    for(int i = 0; i < dictionary.size(); i++)
        if(word == dictionary[i])
            return true;
    return false;
}

int main() {
    string userInput;
    cout << "Enter a word: ";
    cin >> userInput;

    if (check(userInput))
        cout << "The word '" << userInput << "' is in the dictionary." << endl;
    else
        cout << "The word '" << userInput << "' is not in the dictionary." << endl;

    return 0;
}
```

5- Create a program that adds the words "yes" and "no" to the dictionary.

قم بإنشاء برنامج يضيف الكلمتين "yes" و"no" إلى القاموس.

{"hello", "hi", "ok"}

Output

```
The words 'yes' and 'no' have been added to the dictionary.
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>
#include<vector>

using namespace std;

vector<string> dictionary = {"hello", "hi", "ok"};

void addToDictionary(string word) {
    dictionary.push_back(word);
}

int main() {
    addToDictionary("yes");
    addToDictionary("no");

    cout << "The words 'yes' and 'no' have been added to the dictionary." << endl;

    return 0;
}
```

6- Create a program that allows the user to enter multiple words, checks if each word is in the dictionary, and suggests corrections if necessary.

إنشاء برنامج يسمح للمستخدم بإدخال كلمات متعددة، والتحقق من وجود كل كلمة في القاموس، واقتراح التصحيحات إذا لزم الأمر.

Input & Output

```
Enter the number of words: 3
Enter word 1: hey
Did you mean 'hello'?
Enter word 2: fi
Did you mean 'hi'?
Enter word 3: test
Did you mean 'hello'?
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>
#include<vector>

using namespace std;

vector<string> dictionary = {"hello", "hi", "ok"};

bool check(string word) {
    for(int i = 0; i < dictionary.size(); i++)
        if(word == dictionary[i])
            return true;
    return false;
}

string correct(string word) {
    int maxCount = 0;
    string closestWord = "";

    for(int i = 0; i < dictionary.size(); i++) {
        int count = 0;
        for(int j = 0; j < dictionary[i].size(); j++)
            for(int k = 0; k < word.size(); k++)
                if(dictionary[i][j] == word[k])
                    count++;

        if(count > maxCount) {
            maxCount = count;
            closestWord = dictionary[i];
        }
    }

    return closestWord;
}

int main() {
    int numberOfWords;
    cout << "Enter the number of words: ";
    cin >> numberOfWords;

    for (int i = 0; i < numberOfWords; ++i) {
        string word;
        cout << "Enter word " << i + 1 << ": ";
        cin >> word;

        if (check(word))
            cout << "The word '" << word << "' is in the dictionary." << endl;
        else
            cout << "Did you mean '" << correct(word) << "'?" << endl;
    }

    return 0;
}
```

7- Create a program that allows the user to enter multiple words, checks if each word is in the dictionary, and suggests corrections if necessary and allows the user to add new words to the dictionary.

إنشاء برنامج يسمح للمستخدم بإدخال كلمات متعددة، والتحقق من وجود كل كلمة في القاموس، واقتراح التصحيحات إذا لزم الأمر والسماح للمستخدم بإضافة كلمات جديدة إلى القاموس.

Input & Output

```
Enter the number of words: 2
Enter word 1: hey
Did you mean 'hello'? Do you want to add it to the dictionary?
(y/n): y
The word 'hey' has been added to the dictionary.
Enter word 2: test
Did you mean 'hello'? Do you want to add it to the dictionary?
(y/n): n
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>
#include<vector>

using namespace std;

vector<string> dictionary = {"hello", "hi", "ok"};

bool check(string word) {
    for(int i = 0; i < dictionary.size(); i++)
        if(word == dictionary[i])
            return true;
    return false;
}

string correct(string word) {
    int maxCount = 0;
    string closestWord = "";

    for(int i = 0; i < dictionary.size(); i++) {
        int count = 0;
        for(int j = 0; j < dictionary[i].size(); j++)
            for(int k = 0; k < word.size(); k++)
                if(dictionary[i][j] == word[k])
                    count++;

        if(count > maxCount) {
            maxCount = count;
            closestWord = dictionary[i];
        }
    }

    return closestWord;
}

void addToDictionary(string word) {
    dictionary.push_back(word);
}

int main() {
    int numberOfWords;
    cout << "Enter the number of words: ";
    cin >> numberOfWords;

    for (int i = 0; i < numberOfWords; ++i) {
        string word;
        cout << "Enter word " << i + 1 << ": ";
        cin >> word;

        if (check(word))
            cout << "The word '" << word << "' is in the dictionary." << endl;
        else {
            cout << "Did you mean '" << correct(word) << "'? Do you want to add it to the
dictionary? (y/n): ";
            char choice;
            cin >> choice;

            if (choice == 'y') {
                addToDictionary(word);
                cout << "The word '" << word << "' has been added to the dictionary." << endl;
            }
        }
    }

    return 0;
}
```

8- Create a program that concatenates two words entered by the user and prints the result.

قم بإنشاء برنامج يقوم بربط كلمتين أدخلهما المستخدم وطباعة النتيجة.

Input

```
Enter the first word: gammal
Enter the second word: tech
```

Output

```
Concatenated word: gammaltech
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>

using namespace std;

int main() {
    string firstWord, secondWord;
    cout << "Enter the first word: ";
    cin >> firstWord;
    cout << "Enter the second word: ";
    cin >> secondWord;

    string concatenatedWord = firstWord + secondWord;
    cout << "Concatenated word: " << concatenatedWord << endl;

    return 0;
}
```

9- Write a program that reverses a word entered by the user and prints the result.

اكتب برنامجًا يعكس الكلمة التي أدخلها المستخدم ويطبع النتيجة.

Input

```
Enter a word: hello
```

Output

```
Reversed word: olleh
```

Solution

```cpp
//www.gammal.tech

#include<iostream>
#include<string>

using namespace std;

int main() {
    string word;
    cout << "Enter a word: ";
    cin >> word;

    string reversedWord = "";
    for (int i = word.length() - 1; i >= 0; i--) {
        reversedWord += word[i];
    }

    cout << "Reversed word: " << reversedWord << endl;

    return 0;
}
```

10- Write a program that takes a word as input and capitalizes the first character

اكتب برنامجًا يأخذ الكلمة كمدخل ويكتب الحرف الأول حرف capital

Input

```
Enter a word: hello
```

Output

```
Capitalized word: Hello
```

Solution

```cpp
//www.gammal.tech

#include <iostream>
#include <string>

using namespace std;

int main() {
    cout << "Enter a word: ";

    string word;
    cin >> word;

    // Capitalize the first character using ASCII value manipulation
    if (!word.empty()) {
        word[0] = word[0] - 32;
        cout << "Capitalized word: " << word << endl;
    } else {
        cout << "Please enter a valid word." << endl;
    }

    return 0;
}
```