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**Section:** BSE-3A  
**Course:** DSA-Lab  
**Lab No:** 02

**Task 1:** Make a function that check either a word is palindrome or not.

**Code:**

#include <iostream>

#include <stack>

#include <string>

using namespace std;

bool isAlphabetic(string word) {

for (char c : word) {

if (!isalpha(c) && !isspace(c)) {

return false;

}

}

return true;

}

// Function to check if the input is a palindrome

bool palindromeCheck(string word) {

stack<char> s;

string str1 = "";

// Push characters onto the stack

for (int i = 0; i < word.length(); i++) {

s.push(word[i]);

}

// Pop characters from the stack to reverse the word

for (int i = 0; i < word.length(); i++) {

char topChar = s.top();

s.pop();

str1 += topChar;

}

// Compare the reversed word with the original

return (str1 == word);

}

int main() {

string word;

// Input validation loop

while (true) {

cout << "Enter a word: ";

getline(cin, word);

if (word.empty()) {

cout << "Error: You entered an empty input. Please enter a valid word.\n";

continue;

}

if (!isAlphabetic(word)) {

cout << "Error: Invalid input. Please enter alphabetic characters only.\n";

continue;

}

// If input is valid, check if it's a palindrome

if (palindromeCheck(word)) {

cout << "The word is a palindrome." << endl;

}

else {

cout << "The word is not a palindrome." << endl;

}

break;

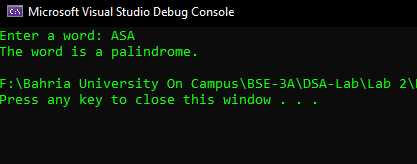
}

return 0;

}

**GitHub-Link:** [**lmuslim2004/DSALAB2 (github.com)**](https://github.com/lmuslim2004/DSALAB2)

**Screenshot:**



A screenshot of a computer program

Description automatically generated