**Assignment 2**

**Objective:**

Write a program which takes a valid Alphabet input and a string and check whether string is accepted for Alphabet or not

**Code:**

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

//Vishal B16101182 Assignment-2

//Objective: Write a program which takes a valid Alphabet input and a string and check whether string is accepted for Alphabet or not

char firstChar(char A[]){ //This returns the first character of a string

return A[0];

}

int main()

{

int i,j,k,l,n,lengthS,isTrue=1,check1=1;

char str1[20], temp[10], firstCharOfString, firstCharOfLetter;

printf("Enter Number of characters : "); //These lines of code take number of characters in Alphabet

scanf("%d",&n);

printf("\n");

char \*A[n];

printf("Enter Valid Alphabet = \n{ \n");

for(i=0;i<n;i++){ //this loop fills the array with letters

A[i]=(char\*)malloc(n);

scanf("%s",A[i]);

}

printf("}\n\n");

printf("Enter String : "); //Take string input

scanf("%s",str1);

printf("\nTokens : ");

for(i=0;i<strlen(str1) ;) //This is the main loop which run till length of string

{

firstCharOfString=str1[i]; //firstCharOfString contains first character of token

for( j=0;j<n;){ //This loop searches for letters in Alphabet which appears in string

if(firstCharOfString==firstChar(A[j])){ /\*when first character of string and letter matches, that letter/Token is selected

and it is processed for further operations\*/

check1=0; //this 'check1' is to ensure that infinity loop should not occur

strcpy (temp, A[j]); //this copies the selected letter into temp variable

for( k=0;k<strlen(A[j]);k++){ //This confirms that letter present in string is complete(equal to selected token) or not

if(str1[i]!=temp[k]){

isTrue=0; //isTrue = 0 means that letter of string is not present in Alphabet

break;

}

i++;

printf("%c",temp[k]); //This breaks the string into tokens and print it

}

printf(" ");

j++;

}

else{ //this else statement runs when character of string is not found in Alphabet

j++; //since condition is failed we have to check other letters of Alphabet

if(j==n && check1==1){ //when all letters are compared and none matched than this statement will run

isTrue=0;

break;

}

}

}

check1=1;

if(isTrue==0)

break;

}

printf("\n\n"); //For Printing the result

if(isTrue==1)

printf("Valid String");

else

printf("Invalid String");

printf("\n\n");

return 0;

}

