

Problem Statement:

Implement the logic in the C Program. Develop menu driven program with following options:

1. Read a passage of 50 words.
2. Display a passage of 50 words.
3. Find the frequency of letter 'A' and 'a' from the passage.

Description of task:

Declare the variables i,j,n,count to be initialised to 0,flag to be initialised to 0, wrd as int .

Declare the variable c as char and ch as char array for storing passage.

Use a do..while loop if you want to continue with menu as it executes the block of statements within it until the text expression becomes false.

Inside the do..while loop give the necessary message with options using printf()

Get the option number or choice

as n using scanf() Use a switch case for this menu driven program.

The value n is passed to switch and it tests and compares with multiple cases.

Inside case 1 use printf() for asking the user to input the passage as string and here gets() function is used to read the strings with white spaces and flag is initialised to 1

Use a while loop for getting each character and then use if condition for checking the number of words and count the number of words, use another if condition to check whether the word is exceeding or not if it exceeds goto case 1 and repeat using goto statements

Inside case 2 using if else check whether the string is entered or not if it is entered display the string using puts() function

Inside case 3 using if else check whether the string is entered or not then check for the frequency of character using if condition using printf() display the frequency

In default case display the invalid message

Program:

```
#include<stdio.h>
#include<string.h>
int main()
{
    int i=0,j,n,count=0,flag=0,wrđ;
    char ch[400],c;
    do
    {
        printf("-----\n");
        printf("\t\t\tMENU");
        printf("\n-----\n");
        printf("\n1. Reading Passage");
        printf("\n2. Displaying Passage");
        printf("\n3. Finding the frequency of 'A'and'a' from thepassage\n");
        printf("-----\n");
        printf("Enter your choice\n");
        scanf("%d",&n);
        getchar();
        switch(n)
        {
            case 1:
                start:
                printf("Enter the passage of 50 words:\n");
                gets(ch);
                flag=1;
                i = 0;
                wrđ = 1;
                while(ch[i]!='\0')
                {
                    if(ch[i]==' ' || ch[i]=='\n' || ch[i]=='\t')
                    {
                        wrđ++;
                    }
                    i++;
                }
                printf("Total number of words in the passage is : %d\n", wrđ-1);
                if(wrđ>50)
                {
                    printf("\nExceeding 50 words please enter only 50 words\n");
                    goto start;
                }
                break;
            case 2:
                if(flag==0)
                {
                    printf("Empty String\n");
                    break;
                }
                else
                {
                    printf("\n");
                    printf("The passage to be displayed is:\n\n");
                    puts(ch);
                }
                break;
            case 3:
                if(flag==0)
                {
                    printf("Empty String\n");
                    break;
                }
                else
                {
                    printf("\n");
                    j=0;
                    while(ch[j]!='\0')
                    {
                        if(ch[j]=='A' || ch[j]=='a')
                        {
                            count++;
                        }
                        j++;
                    }
                    printf("The frequency of 'A'and 'a'from the passage is %d\n",count);
                }
                break;
            default:
                printf("Invalid option. Please enter number from 1 to 3");
                break;
        }
        printf("\n");
        printf("If you want to continue press y\n");
        scanf("%c",&c);
    }while(c=='y');
    return 0;
}
```

Output:

```
-----
                        MENU
-----

1. Reading Passage
2. Displaying Passage
3. Finding the frequency of 'A'and'a' from the passage
-----
Enter your choice
1
Enter the passage of 50 words:
The word nature has been used for various uses today and it mostly depicts wildlife and geology. Nature usually refers to general realms that have
not been altered by man like beaches, forests, rocks, wild animals, mountains hills etc when compared to manmade items like manufactured goods.
Total number of words in the passage is : 46

If you want to continue press y
y
-----
                        MENU
-----

1. Reading Passage
2. Displaying Passage
3. Finding the frequency of 'A'and'a' from the passage
-----
Enter your choice
2
The passage to be displayed is:

The word nature has been used for various uses today and it mostly depicts wildlife and geology. Nature usually refers to general realms that have
not been altered by man like beaches, forests, rocks, wild animals, mountains hills etc when compared to manmade items like manufactured goods.

If you want to continue press y
y
-----
                        MENU
-----

1. Reading Passage
2. Displaying Passage
3. Finding the frequency of 'A'and'a' from the passage
-----
Enter your choice
3
The frequency of 'A'and 'a'from the passage is 23

If you want to continue press y
n
-----
Process exited after 57.74 seconds with return value 0
Press any key to continue . . .
```