String Functions Assignment

Mandatory

1. WAP to prompt and read a line of text with words separated by space. Tokenise and extract the words. Display them. Impement the following functions for this.
    a. int tokenise(char *arr); //tokenise and display tokens , return number of tokens to the caller
    [Use strtok() to tokenise]

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```c
#include <stdio.h>
#include <string.h>

int tokenise(char *arr) {
    char *token;
    int count = 0;
    token = strtok(arr, "|");
    while (token != NULL) {
        printf("%s\n", token);
        count++;
        token = strtok(NULL, "|");
    }
    return count;
}
int main() {
    char str[100];
    printf("Enter a line of text: ");
    fgets(str, sizeof(str), stdin);
    int numTokens = tokenise(str);
    printf("Total number of tokens: %d\n", numTokens);
    return 0;
}

~
```

2. Implement your own strncat() which shall concatenate n characters from src to dest.

```
char *strncat(char *dest, const char *src, size_t n)
```

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```c
#include <stdio.h>
#include<string.h>
char *strncat_custom(char *dest, const char *src, size_t n) {
    char *destPtr = dest;
    while (*destPtr != '\0') {
        destPtr++;
    }
    while (n-- && *src != '\0') {
        *destPtr++ = *src++;
    }
    *destPtr = '\0';
    return dest;
}
int main() {
    char dest[100] = "Hello, ";
    char src[] = "world!";
    strncat_custom(dest, src, 3);
    printf("Concatenated string: %s\n", dest);
    return 0;
}

```

3. WAP to
    a. Search for and replace the vowel characters (upper and lower case) with “ay” in a word read from user. Consider a maximum word length of 40 characters.
    b. Identify the test inputs to be used
    c. Display updated string

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```c
#include <stdio.h>
#include <string.h>

void replace_vowels_with_ay(char *word) {
    char vowels[] = "aeiouAEIOU";
    char result[80];
    int j = 0;
    for (int i = 0; word[i] != '\0'; i++) {
        if (strchr(vowels, word[i])) {
            result[j++] = 'a';
            result[j++] = 'y';
        } else {
            result[j++] = word[i];
        }
    }
    result[j] = '\0';
    strcpy(word, result);
}

int main() {
    char word[40];
    printf("Enter a word: ");
    fgets(word, sizeof(word), stdin);
    word[strcspn(word, "\n")] = '\0';
    replace_vowels_with_ay(word);
    printf("Updated word: %s\n", word);
    return 0;
}

```