

**May 12 Home questions**

#1. WAP to change the value of constant integer using pointers.

Code:

```
#include <stdio.h>
int main()
{
    const float pi_285=3.14;
    float *ptr_285;
    int n;
    ptr_285=&pi_285;
    printf("The value of pi is %f\n",*ptr_285);
    printf("But its okay, give your own desired value to pi\n");
    scanf("%f",ptr_285);
    printf("=====\\n");
    printf("The new value you have given is = %f\\n",*ptr_285);
    printf("=====\\n");
    n=1%10;
    printf("%d ",n);
    return 0;
}
```

Output:

```
PS C:\Users\KIIT\Desktop\Programming\09_may_recursion> gcc valuechange_pointers.c
valuechange_pointers.c: In function 'main':
valuechange_pointers.c:7:12: warning: assignment discards 'const' qualifier from pointer target type [-Wdiscarded-qualifiers]
   7 |     ptr_285=&pi_285;
     |         ^
PS C:\Users\KIIT\Desktop\Programming\09_may_recursion> ./a.exe
The value of pi is 3.140000
But its okay, give your own desired value to pi
356
=====
The new value you have given is = 356.000000
=====
PS C:\Users\KIIT\Desktop\Programming\09_may_recursion>
```

#2. WAP to count distinct number of vowels and consonants present in a string using pointer.

Code:

```
#include <stdio.h>
#include <string.h>
int main()
{
    char arr_285[20], *ptr_285;
    int i,n,cCount_285,vCount_285;
    printf("Provide your string\\n");
    fgets(arr_285,20,stdin);
    ptr_285=&arr_285[0];
    n=strlen(arr_285);
    while(*ptr_285!='\\0')
    {
        if(*ptr_285=='U' || *ptr_285=='O' || *ptr_285=='I' || *ptr_285=='E' || *ptr_285=='A' ||
*ptr_285=='u' || *ptr_285=='o' || *ptr_285=='i' || *ptr_285=='e' || *ptr_285=='a')
            vCount_285++;
        ptr_285++;
    }
    cCount_285=n-vCount_285-1;
    printf("The total number of vowels is %d\\n",vCount_285);
    printf("The total number of consonants is %d\\n",cCount_285);
}
```

KIDUS ABEBE MEKONEN

Roll No- 2106285

Section A11

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```
    return 0;
}
```

Output:

```
PS C:\Users\KIIT\Desktop\Programming\12_may> gcc vowelconsonant_pointer.c
PS C:\Users\KIIT\Desktop\Programming\12_may> ./a.exe
Provide your string
qwertyui
The total number of vowels is 3
The total number of consonants is 5
PS C:\Users\KIIT\Desktop\Programming\12_may> █
```

#3. WAP to print all permutations of a given string using pointers.

Code:

```
#include <stdio.h>
#include <string.h>
void changePosition(char *ch1, char *ch2)
{
    char tmp;
    tmp = *ch1;
    *ch1 = *ch2;
    *ch2 = tmp;
}
void charPerm(char *cht, int startnum_285, int endnum_285)
{
    int i;
    if (startnum_285 == endnum_285)
        printf("%s ", cht);
    else
    {
        for (i = startnum_285; i <= endnum_285; i++)
        {
            changePosition((cht+startnum_285), (cht+i));
            charPerm(cht, startnum_285+1, endnum_285);
            changePosition((cht+startnum_285), (cht+i));
        }
    }
}
int main()
{
    char str_285[4];
    printf("Input a 4 letter word: ");
    scanf("%s",str_285);
    printf("\n Permutations of given string using pointers:\n");
    int n = strlen(str_285);
    printf(" The permutations of the string are : \n");
    charPerm(str_285, 0, n-1);
    printf("\n\n");
    return 0;
}
```

KIDUS ABEBE MEKONEN

Roll No- 2106285

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Output:

```
PS C:\Users\KIIT\Desktop\Programming\12_may> gcc permutation.c
PS C:\Users\KIIT\Desktop\Programming\12_may> ./a.exe
Input a 4 letter word: word

Permutations of given string using pointers:
The permutations of the string are :
word* wodr* wrod* wrdo* wdor* owrd* owdr* orwd* ordw* odrw* odwr* rowd* rodw* rwd* rwd* rdwo* rdow* dorw* down* drow
* drwo* dwro* dwor*
```

#4. WAP to swap two consecutive characters starting from left to right of a string. (Hint: Take two pointers and increment by 2.)

Code:

```
#include <stdio.h>
#include <string.h>
void swap(char* ptr1_285, char* ptr2_285)
{
    char temp;
    temp = *ptr1_285;
    *ptr1_285 = *ptr2_285;
    *ptr2_285 = temp;
}
int main()
{
    int i,j,n;
    char *ptr1_285,*ptr2_285,string[20];
    printf("Please give a short string\n");
    gets(string);
    ptr1_285=&string[0]; ptr2_285=&string[1];
    n= strlen(string);
    for(i=0;i<n-1;i++)
    {
        swap(ptr1_285,ptr2_285);
        ptr1_285++;
        ptr2_285++;
    }
    printf("After swapping every two character from left to right\n");
    puts(string);
    return 0;
}
```

Output:

```
PS C:\Users\KIIT\Desktop\Programming\12_may> gcc consecutive_swap.c
PS C:\Users\KIIT\Desktop\Programming\12_may> ./a.exe
Please give a short string
KIDUS
After swapping every two character from left to right
IDUSK
PS C:\Users\KIIT\Desktop\Programming\12_may> |
```

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#5. WAP to find the number of times that a given word (i.e. a short string) occurs in a sentence (i.e. a long string!).

Code:

```
#include <stdio.h>
#include <string.h>
int main()
{
    int i,j,count_285,n;
    char arr_285[30][30],sub_285[30];
    printf("How many words does your sentence have?\n");
    scanf("%d",&n);
    printf("Please provide a sentence\n");
    for(i=0;i<n;i++)
    {
        scanf("%s",arr_285[i]);
    }
    printf("What is the string you are looking to count?\n");
    scanf("%s",sub_285);
    for(i=0;i<n;i++)
    {
        if(strcmp(arr_285[i],sub_285)==0)
            count_285++;
    }
    printf("count=%d",count_285);
    return 0;
}
```

Output:

```
PS C:\Users\KIIT\Desktop\Programming\12_may> gcc word_count2.c
PS C:\Users\KIIT\Desktop\Programming\12_may> ./a.exe
How many words does your sentence have?
5
Please provide a sentence
My sentence has five words
What is the string you are looking to count?
five
count=1
PS C:\Users\KIIT\Desktop\Programming\12_may> █
```