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Experiment 16 :

Write C program to count the number of lines, words and characters in a given text .

Aim :

Study of string to find the number of lines, words and characters in a given text

Code :

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
    int count1=0,count2=0,count3=0,i=0;
    char str[100];
    printf("Enter a string/text :\n");
    gets(str);
    puts(str);
    while(str[i]!='\0'){
        if(str[i]=='\n'){
            count1++;
        }
        else if(str[i]==' '){
            count2++;
        }
        else if(str[i]!='\n' || str[i]!=' '){
            count3++;
        }
    }
```

```

        i++;
    }
    if(count3>0){
        count1++;
        count2++;
    }
    printf("\nNumber of lines is %d",count1);
    printf("\nNumber of words is %d",count2);
    printf("\nNumber of characters is %d",count3);
    getch();

}

```

Output :

```

Enter a string/text :
Anish Ashok Sharma
Anish Ashok Sharma

Number of lines is 1
Number of words is 3
Number of characters is 16|

```

```

Enter a string/text :
Hello guys welcome to my youtube channel
Hello guys welcome to my youtube channel

Number of lines is 1
Number of words is 7
Number of characters is 34|

```

Conclusion :

Through this experiment we learn string and how it work .

Experiment 17 :

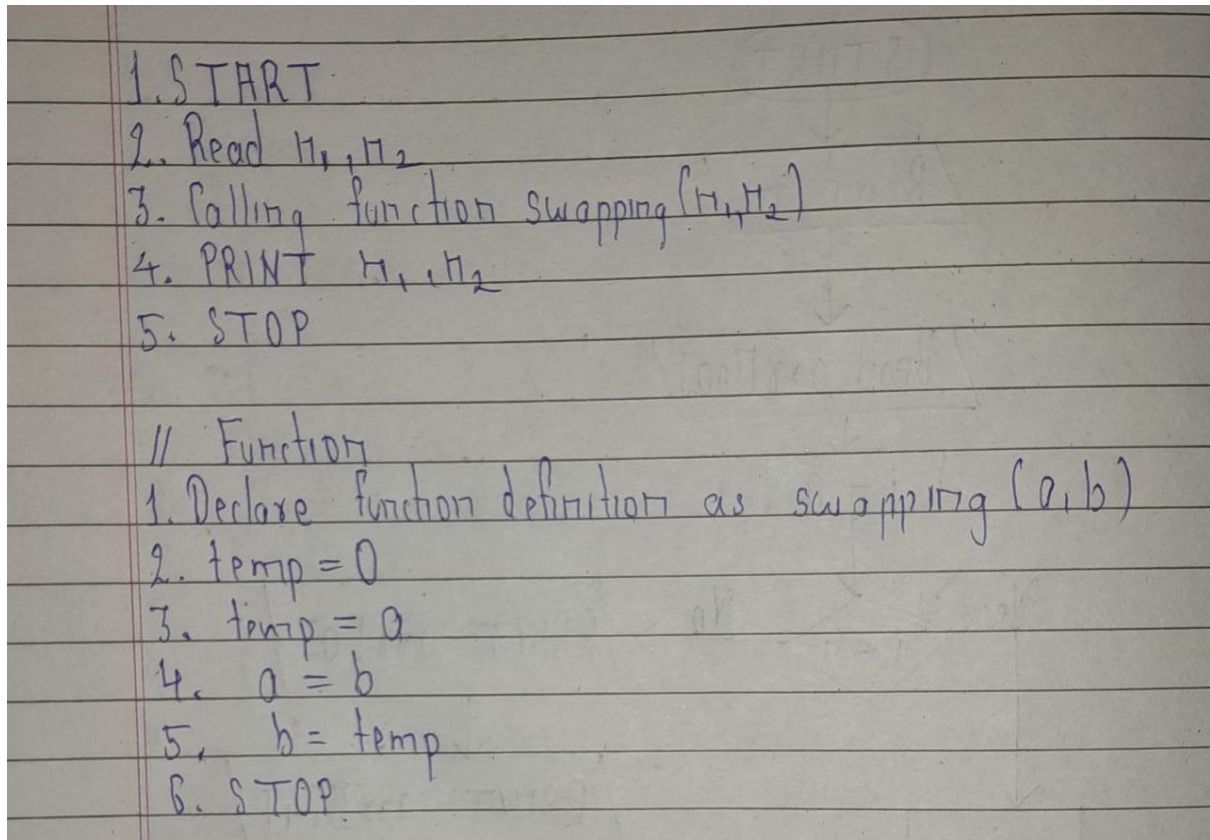
Write a program to swap two numbers using a function. Pass the values to be swapped to this function using the call-by-value method and call-by-reference method. Write algorithm and draw flowchart for the same.

Aim :

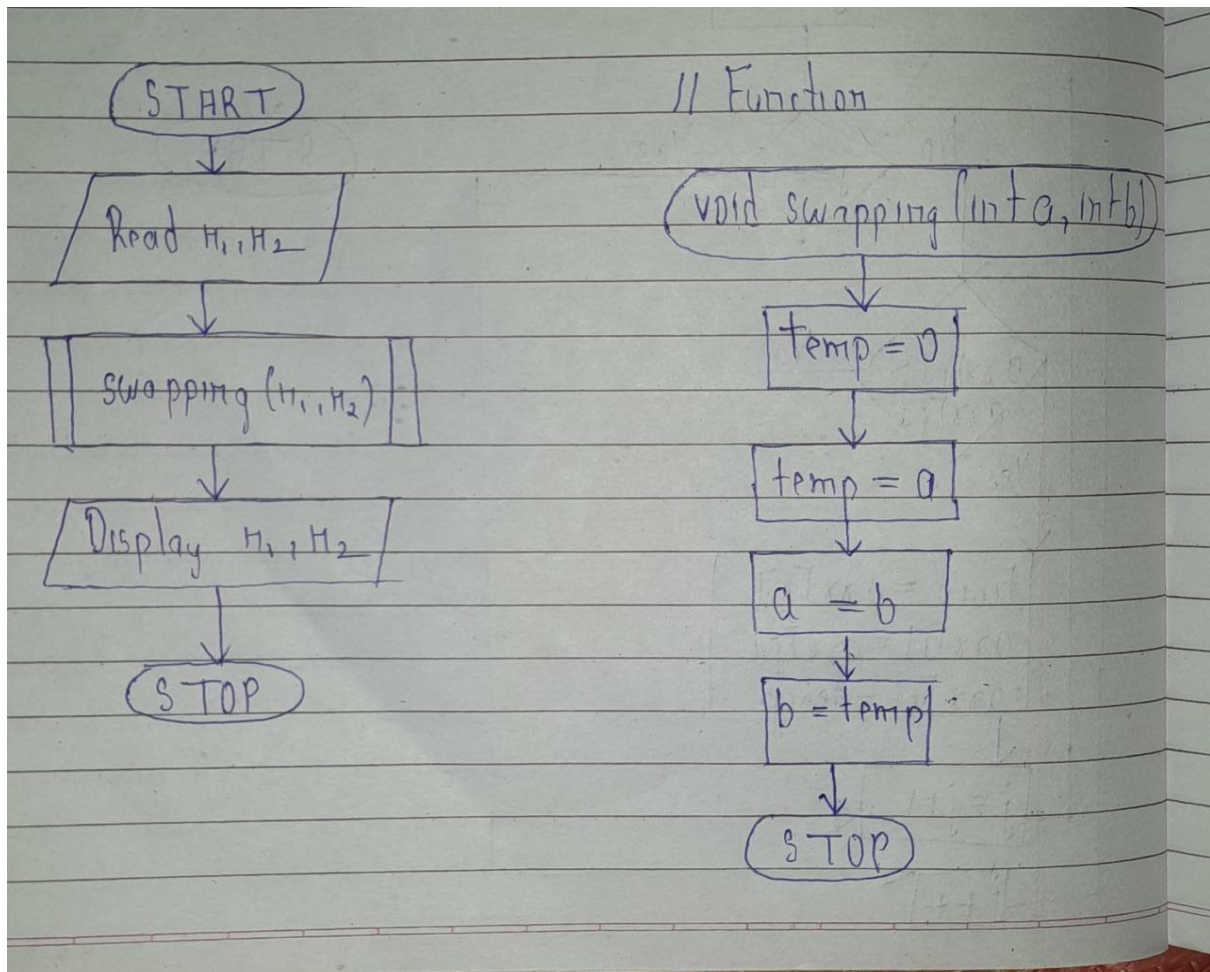
swap two numbers using a function

1. Pass By value
2. Call By Reference

Algorithm :



Flowchart :



Code :

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void swapping(int a,int b)
{
    int temp=0;
    temp=a;
    a=b;
    b=temp;
}
```

```

void main()
{
    int n1,n2;
    printf("Call by value....\n");
    printf("Enter two number :\n");
    scanf("%d %d",&n1,&n2);
    swapping(n1,n2);
    printf("After swapping ,n1 and n2 be %d and %d respectively",n1,n2);
    getch();
}

```

Output :

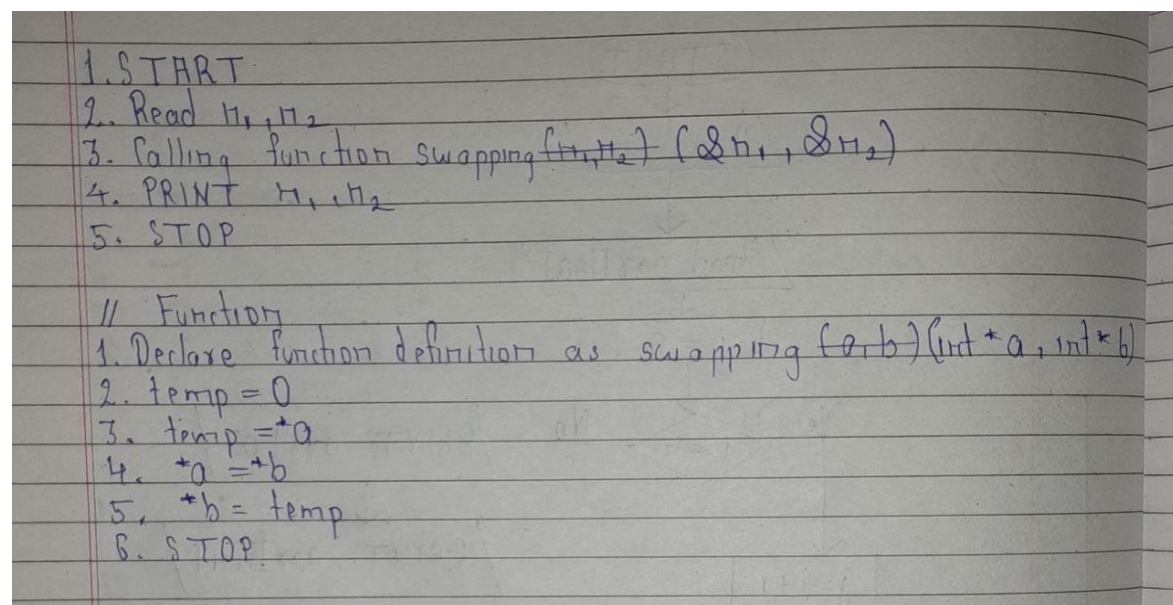
```

Call by value....
Enter two number :
23
56
After swapping ,n1 and n2 be 23 and 56 respectively

```

2.

Algorithm :



The image shows a handwritten algorithm on lined paper. It is divided into two main sections: a main program flow and a function definition.

Main Program Flow:

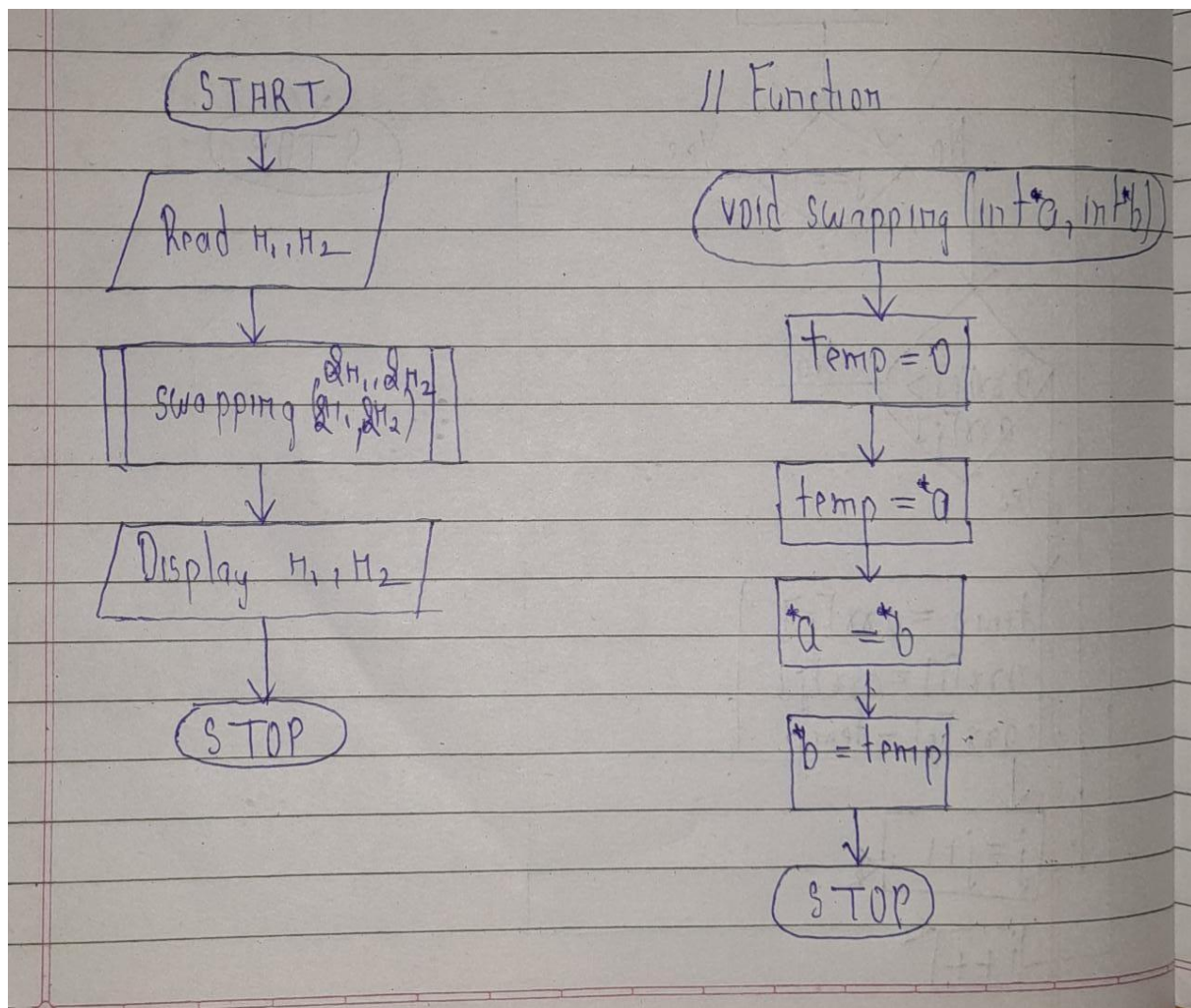
1. START
2. Read n_1, n_2
3. Calling function $\text{swapping}(n_1, n_2)$ ($\&n_1, \&n_2$)
4. PRINT n_1, n_2
5. STOP

Function Definition:

// Function

1. Declare function definition as $\text{swapping}(a, b)$ ($\text{int}^*a, \text{int}^*b$)
2. $\text{temp} = 0$
3. $\text{temp} = *a$
4. $*a = *b$
5. $*b = \text{temp}$
6. STOP

Flowchart :

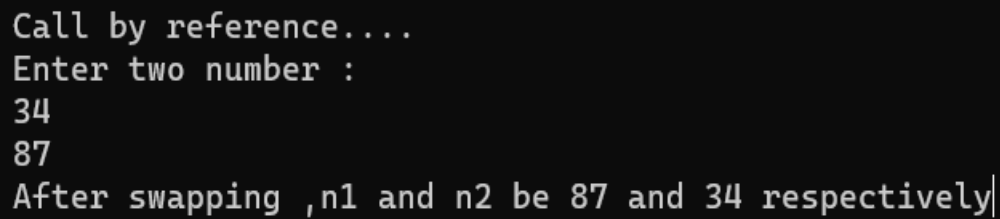


Code :

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void swapping(int *a,int *b)
{
    int temp=0;
    temp=*a;
    *a=*b;
    *b=temp;
}
```

```
}  
void main()  
{  
    int n1,n2;  
    printf("Call by reference....\n");  
    printf("Enter two number :\n");  
    scanf("%d %d",&n1,&n2);  
    swapping(&n1,&n2);  
    printf("After swapping ,n1 and n2 be %d and %d respectively",n1,n2);  
    getch();  
}
```

Output :

A screenshot of a terminal window with a black background and white text. The output shows the program's execution: it prints 'Call by reference....', prompts for two numbers, receives '34' and '87' as input, and then prints 'After swapping ,n1 and n2 be 87 and 34 respectively'.

```
Call by reference....  
Enter two number :  
34  
87  
After swapping ,n1 and n2 be 87 and 34 respectively|
```

Conclusion :

Through this experiment we learn pass by value and call by reference .

Experiment 18 :

Write a C program to find the length of the string using Pointer.

Aim :

Study of pointers in string .

Code :

```
#include<stdio.h>

#include<conio.h>

#include<conio.h>

void main()
{
    char str[100];
    char *ptr=&str,i=0,len=0;
    //clrscr();
    printf("Enter your string :\n");
    gets(str);
    puts(str);
    while(*ptr!='\0'){
        len++;
        ptr++;
    }
    printf("Length of string using pointer is %d",len);
    getch();
}
```

Output :

```
Enter your string :  
Anish Sharma  
Anish Sharma  
Length of string using pointer is 12|
```

```
Enter your string :  
qwertyuiop  
qwertyuiop  
Length of string using pointer is 10|
```

Conclusion :

We learn how to use pointer in string .

Experiment 19:

Aim :

Write a program to copy one array to another using pointer.

Code :

```
#include<stdio.h>

#include<conio.h>

void main()
{
    int arr1[10],arr2[10],i,n;
    int *ptr=&arr1;
    //clrscr();
    printf("Enter array size :\n");
    scanf("%d",&n);
    printf("Enter array element :\n");
    for(i=0;i<n;i++){
        scanf("%d",&arr1[i]);
    }printf("\nPrinting array element:\n");
    for(i=0;i<n;i++){
        printf("%d ",arr1[i]);
    }
    for(i=0;i<n;i++){
        arr2[i]=*ptr;
        ptr++;
    }
    printf("\nPrinting copying array:\n");
    for(i=0;i<n;i++){
```

```
        printf("%d ",arr2[i]);  
    }  
    getch();  
}
```

Output :

```
Enter array size :  
5  
Enter array element :  
11  
22  
33  
44  
55  
  
Printing array element:  
11 22 33 44 55  
Printing copying array:  
11 22 33 44 55 |
```

```
Enter array size :  
4  
Enter array element :  
-9  
8  
-2  
777  
  
Printing array element:  
-9 8 -2 777  
Printing copying array:  
-9 8 -2 777 |
```

Conclusion :

Through this experiment we learn use of pointers in array and how to copy one array element into another array.

Experiment 20 :

Write a program to compare two strings using pointers.

Aim :

Study of string using pointer .

Code :

```
#include<stdio.h>

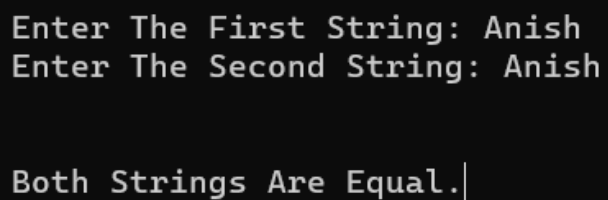
#include<conio.h>

#include<string.h>

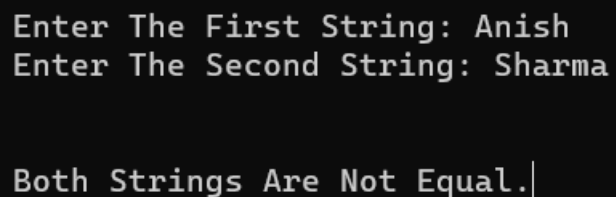
void main()
{
    int i,equal = 0;
    char string1[50],string2[50];
    char *ptr1=string1;
    char *ptr2=string2;
    //clrscr();
    printf("Enter The First String: ");
    scanf("%s",string1);
    printf("Enter The Second String: ");
    scanf("%s",string2);
    ptr1 = string1;
    ptr2 = string2;
    while(*ptr1 == *ptr2)
    {
        if ( *ptr1 == '\0' || *ptr2 == '\0' )
            break;
        ptr1++;
    }
}
```

```
ptr2++;  
}  
if( *ptr1 == '\0' && *ptr2 == '\0' )  
printf("\n\nBoth Strings Are Equal.");  
else  
printf("\n\nBoth Strings Are Not Equal.");  
getch();  
}
```

Output :



```
Enter The First String: Anish  
Enter The Second String: Anish  
  
Both Strings Are Equal.|
```



```
Enter The First String: Anish  
Enter The Second String: Sharma  
  
Both Strings Are Not Equal.|
```

Conclusion :

Through this experiment we learn pointers in string and how to operate pointer in string.