Assignment 6: String

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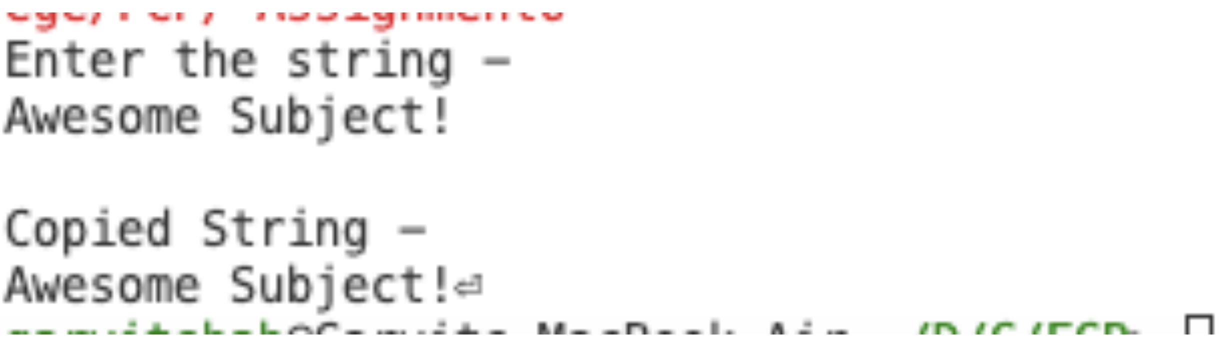
U21CS089

1) Without using inbuilt string functions, perform the following in C language:

   a) copy one string into another

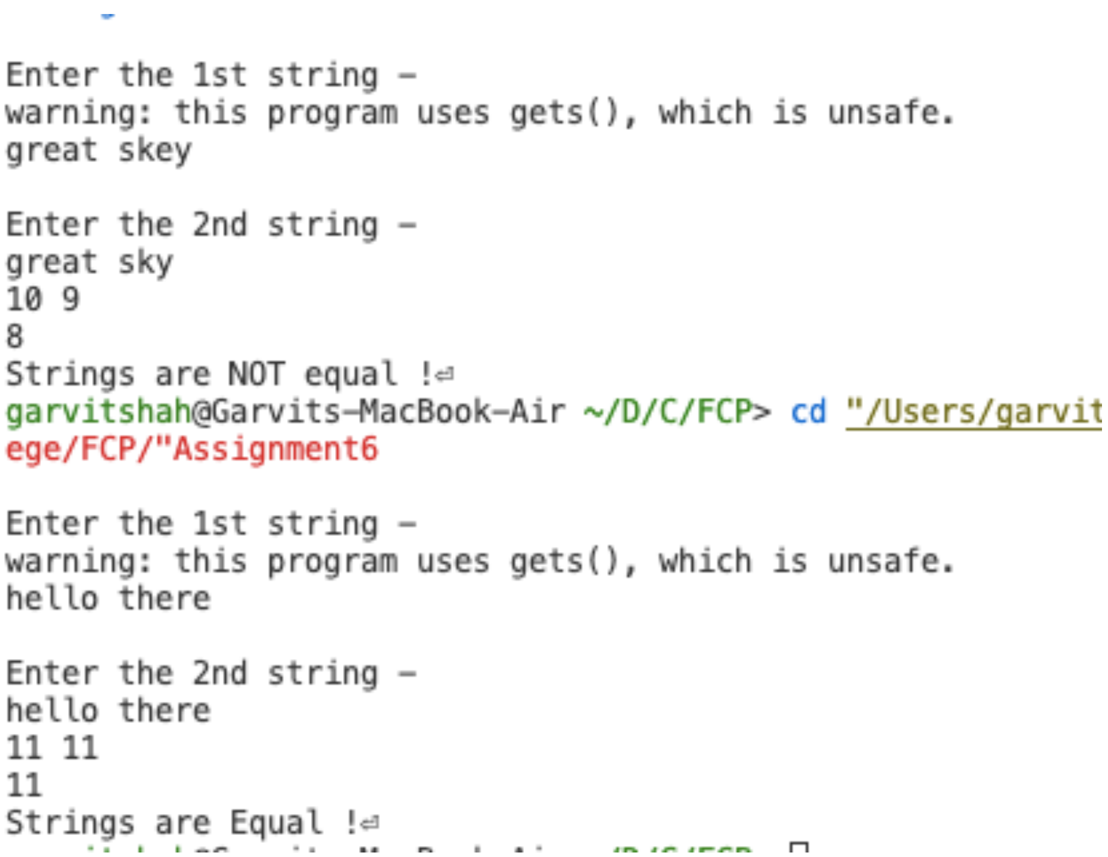
```c
//Q1-a
#include <stdio.h>
int main(){
    char str1[100], str[100], i=0;
    printf("Enter the string - \n");
    scanf("%[^\n]", str1);
    printf("\nCopied String - \n");
    while(str1[i]!='\0'){
        str[i] = str1[i];
        printf("%c", str[i]);
        i+=1;
    }
}
```



```
Enter the string -
Awesome Subject!

Copied String -
Awesome Subject!⏎
```

b) compare two strings

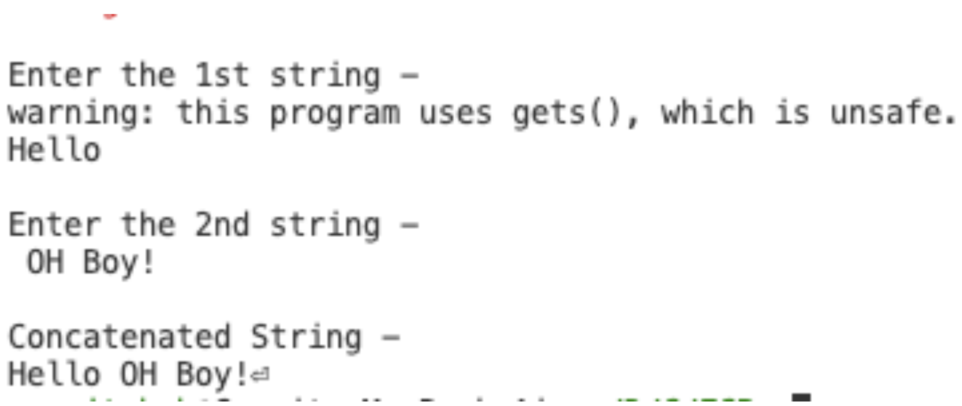
```
//Q1-b
#include <stdio.h>
int main(){
    int a, b;
    char str1[100], str2[100], i=0, l1=0, l2=0;
    printf("\nEnter the 1st string - \n");
    gets(str1);
    while(str1[i] != '\0'){
        l1 += 1;
        i+=1;
    }
    printf("\nEnter the 2nd string - \n");
    gets(str2);
    i=0;
    while(str2[i] != '\0'){
        l2 += 1;
        i+=1;
    }
    printf("%d %d\n", l1, l2);
    i=0;
    while((str1[i] != '\0') && (str2[i] != '\0')){
        if (str1[i] == str2[i]){
            i+=1;
        }
        else{
            break;
        }
    }
    printf("%d\n", i);
    if((i == l1) && (i == l2)){
        printf("Strings are Equal !");
    }
    else if((i == l1) || (i == l2)){
        printf("Only starting %d letters are same", i);
    }
    else{
        printf("Strings are NOT equal !");
    }
}
```



```
Enter the 1st string -
warning: this program uses gets(), which is unsafe.
great skey

Enter the 2nd string -
great sky
10 9
8
Strings are NOT equal !⏎
garvitshah@Garvits-MacBook-Air ~/D/C/FCP> cd "/Users/garvit
ege/FCP/"Assignment6

Enter the 1st string -
warning: this program uses gets(), which is unsafe.
hello there

Enter the 2nd string -
hello there
11 11
11
Strings are Equal !⏎
```

c) concat two strings

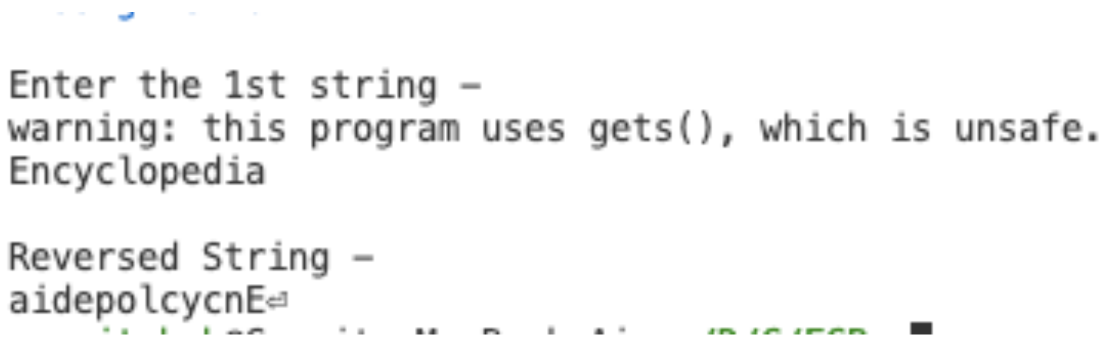
```c
//Q1-c
#include <stdio.h>
int main(){
    char str1[100], str2[100], i=0, l1=0;
    printf("\nEnter the 1st string - \n");
    gets(str1);
    while(str1[i] != '\0'){
        l1 += 1;
        i+=1;
    }
    printf("\nEnter the 2nd string - \n");
    gets(str2);
    i=0;
    while(str2[i] != '\0'){
        str1[l1+i] = str2[i];
        i++;
    }
    printf("\nConcatenated String - \n%s", str1);
}
```



```
Enter the 1st string -
warning: this program uses gets(), which is unsafe.
Hello

Enter the 2nd string -
 OH Boy!

Concatenated String -
Hello OH Boy!⏎
```

d) reverse a given string

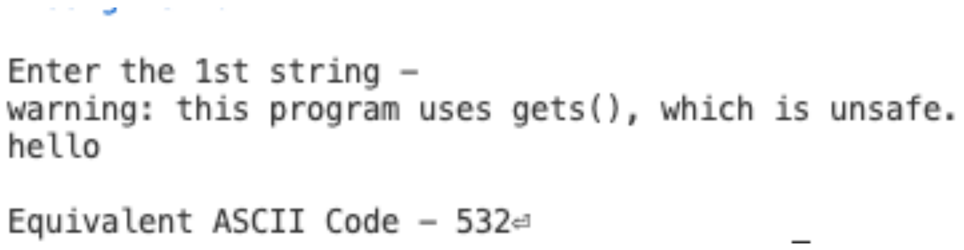
```
//Q1-d
#include <stdio.h>
int main(){
    char str1[100], str2[100], i=0, l1=0;
    printf("\nEnter the 1st string - \n");
    gets(str1);
    while(str1[i] != '\0'){
        l1 += 1;
        i+=1;
    }
    i=0;
    while(str1[i] != '\0'){
        str2[i] = str1[l1-1-i];
        i++;
    }
    printf("\nReversed String - \n%s", str2);
}
```



```
Enter the 1st string -
warning: this program uses gets(), which is unsafe.
Encyclopedia

Reversed String -
aidepolcycnE⏎
```

2) Write a program to print the equivalent ASCII code of the string entered by the user.

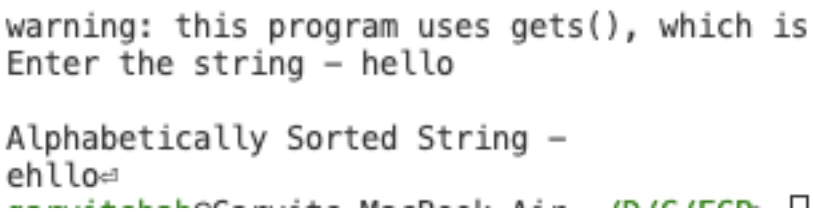
```
//Q2
#include <stdio.h>
int main(){
    char str1[100], str2[100];
    int i=0, sum = 0;
    printf("\nEnter the 1st string - \n");
    gets(str1);
    while(str1[i] != '\0'){
        sum += str1[i];
        i++;
    }
    printf("\nEquivalent ASCII Code - %d", sum);
}
```



```
Enter the 1st string -
warning: this program uses gets(), which is unsafe.
hello

Equivalent ASCII Code - 532⏎
```

3) Write a program to sort a given string in alphabetical order.

```
//Q3
#include <stdio.h>
int main(){
    char str1[100], str2[100], k;
    int i=0, j=0;
    printf("\nEnter the string - ");
    gets(str1);
    while(str1[i] != '\0'){
        while(str1[j] != '\0'){
            if(str1[i] > str1[j]){
                k = str1[j];
                str1[j] = str1[i];
                str1[i] = k;
            }
            j+=1;
        }
        i+=1;
    }
    printf("\nAlphabetically Sorted String - \n%s", str1);
}
```



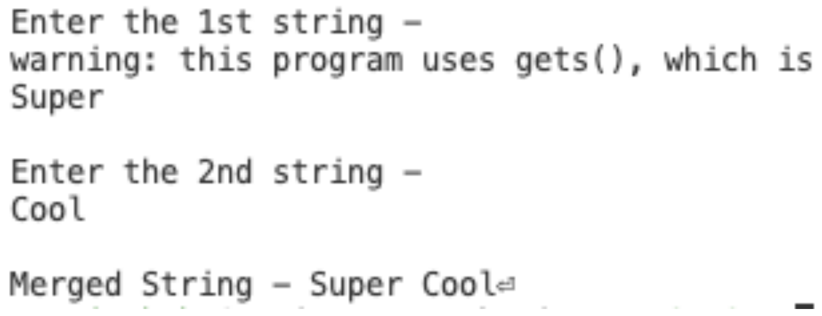
```
warning: this program uses gets(), which is unsafe.
Enter the string - hello

Alphabetically Sorted String -
ehllo
```

4) For two strings given by the user, merge them and print the third-string in the following manner:

Input: String1: FCP String2: subject

Output: FCP subject

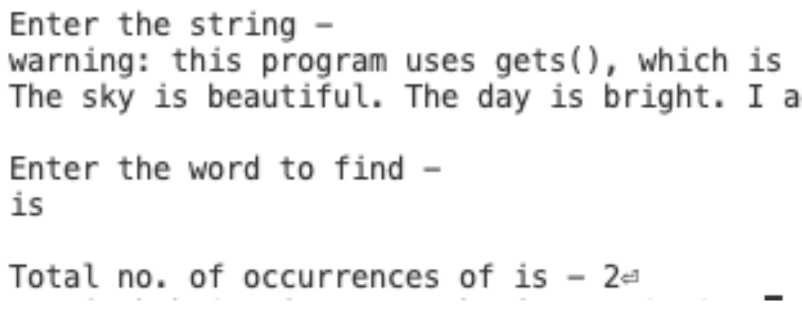
```
//Q4
#include <stdio.h>
int main(){
    int i=0, m, l1=0;
    char str1[100], str2[100], str3[100];
    printf("\nEnter the 1st string - \n");
    gets(str1);
    while(str1[l1] != '\0'){
        l1+=1;
    }
    printf("\nEnter the 2nd string - \n");
    gets(str2);
    printf("\nMerged String - ");
    while(str1[i]!='\0'){
        str3[i] = str1[i];
        printf("%c", str3[i]);
        i+=1;
    }
    i = 0;
    printf("%c", ' ');
    while(str2[i] != '\0'){
        str3[l1+i] = str2[i];
        printf("%c", str3[l1+ i]);
        i+=1;
    }

}
```



```
Enter the 1st string -
warning: this program uses gets(), which is unsafe.
Super

Enter the 2nd string -
Cool

Merged String - Super Cool
```

5) Write a program to count all occurrences of a particular word from a given string.

```
//Q5
#include <stdio.h>
int main(){
    int i=0, num = 0, x=1, l=0, j=0, k=0;
    char str1[100], str2[100];
    printf("\nEnter the string - \n");
    gets(str1);
    printf("\nEnter the word to find - \n");
    gets(str2);
    while(str2[l]!='\0'){
        l+=1;
    }
    while(str1[i] != '\0'){
        j=0;
        k=0;
        while((str1[i]!=' ') && (str1[i] != '\0')){
            if (str1[i] == str2[j]){
                k+=1;
            }
            j+=1;
            i+=1;
        }
        if(k == l){
            num+=1;
        }
        i+=1;
    }
    printf("\nTotal no. of occurrences of %s – %d", str2, num);
}
```

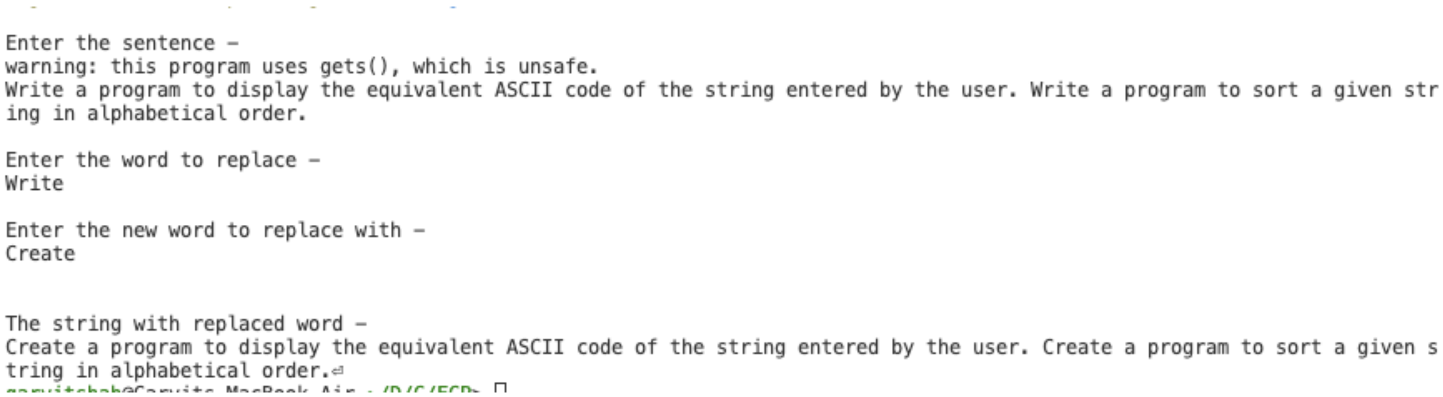


```
Enter the string -
warning: this program uses gets(), which is unsafe.
The sky is beautiful. The day is bright. I adore the nights.

Enter the word to find -
is

Total no. of occurrences of is - 2⏎
```

6) Write a program in C to replace a particular word by another word from a given string.

```
//Q6
#include <stdio.h>
int main(){
    int i=0, j=0, k=0, m=0, p=0, l2=0, l3=0;
    char str1[300], str2[100], str3[100], str4[300];
    printf("\nEnter the sentence – \n");
    gets(str1);
    printf("\nEnter the word to replace – \n");
    gets(str2);
    while(str2[l2] != '\0'){
        l2+=1;
    }
    printf("\nEnter the new word to replace with – \n");
    gets(str3);
    while(str3[l3] != '\0'){
        l3+=1;
    }
    while(str1[i] != '\0'){
        j=0;
```

```c
            k=0;
            while((str1[i]!=' ') && (str1[i] != '\0')){
                str4[m] = str1[i];
                if (str1[i] == str2[j]){
                    k+=1;
                }
                j+=1;
                i+=1;
                m+=1;
            }
            str4[m] = str1[i];
            p=0;
            if(k == l2){
                m -= l2;
                while(str3[p] != '\0'){
                    str4[m] = str3[p];
                    p+=1;
                    m+=1;
                }
                str4[m] = ' ';
            }
            i+=1;
            m+=1;
        }
        printf("\n\nThe string with replaced word - \n%s", str4);
    }
```



```
Enter the sentence -
warning: this program uses gets(), which is unsafe.
Write a program to display the equivalent ASCII code of the string entered by the user. Write a program to sort a given str
ing in alphabetical order.

Enter the word to replace -
Write

Enter the new word to replace with -
Create


The string with replaced word -
Create a program to display the equivalent ASCII code of the string entered by the user. Create a program to sort a given s
tring in alphabetical order.⏎
garvitshah@Garvits-MacBook-Air ~/D/C/ECP> 
```