```c
/*

Que : 1.Write a C program to accept string with multiple spaces from user and print as
it is.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin);

	printf("Output String: %s", arr);
}




/*

Que : 2.Write a C program to accept string with multiple spaces from user and print it
with a sinlge space as a delimiter.
		Eg:
			Input String:
				_____India_____is_my_________country_____________
			Output String:
				India_is_my_country (Consider _ as space)
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);

	printf("String without Extra Speces: ");

	// Logic to remove extra speces from given string.
```

```
	int i = 0;
	while(arr[i] != '\0')
	{
		while (arr[i] == ' ')
		{
			i++;
		}
		if (arr[i] == '\n' || arr[i] == '\0') {
			//i++;
			break;
		}
		while (arr[i] != ' ')
		{
			printf("%c", arr[i]);
			i++;
		}
		printf(" ");
	}
}



/*

Que : 3. Write a C program to print count of number characters in given string.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100], count = 0; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);

	// Logic to count number of characters in given string.
	int i = 0;
	while (arr[i] != '\0')
	{
		while (arr[i] == ' ')
		{
			i++;
		}
		if (arr[i] == '\n' || arr[i] == '\0') {
			//i++;
			break;
		}
		while (arr[i] != ' ')
		{
			count++;
```

```
                        i++;
                }
        }
        printf("The count of characters in given string is: %d", count);

}




/*

Que : 4.Write a C program to accept string and print it in the reverse order.
                Eg:
                        Input String: India is my country
                        Output String: yrtnuoc ym si aidnI
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr[100]; // Declaration of Required Variables

        printf("Enter a String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string

        printf("User Input String is: %s", arr);

        // Logic to print reverse of string.
        int i = 0;
        while (arr[i] != '\0')
        {
                if (arr[i] == '\n') {
                        break;
                }
                i++;
        }
        int last_char = i--; // Get the last charcter of the string

        printf("The Reverse Order String is: ");

        for (int i = last_char - 1; i >= 0; i--) // For loop to print array element in
reverse.
        {
                printf("%c", arr[i]);
        }

}
```

```c
/*

Que : 5. Write a C program to count count of number of vowels and number of consonants
in the given string.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables
	char vowels[] = {'a','e','i','o','u','A','E','I','O','U' };
	char consonants[] =
{ 'b','c','d','f','g','h','j','k','l','m','n','p','q','r','s','t','v','w','x','y','z',
'B','C','D','F','G','H','J','K','L','M','N','P','Q','R','S','T','V','W','X','Y','Z' };
	int vowels_count = 0, consonants_count = 0;

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);

	int size_vowels = sizeof(vowels);
	int size_consonants = sizeof(consonants);
	int size_datatype = sizeof(vowels[0]);
	int vowels_len = size_vowels / size_datatype; // Calculating size of array
vowels
	int consonants_len = size_consonants / size_datatype; // Calculating size of
array consonants


	// Logic to count the number of vowels and consonants in given string.
	int i = 0;
	while (arr[i] != '\0') {
		if (arr[i] == '\n') {
			break;
		}
		if (arr[i] == ' ') {
			i++;
			continue;
		}
		for (int j = 0; j < vowels_len; j++)
		{
			if (arr[i] == vowels[j]) // If vowels fount in string increase
count of vowels
			{
				vowels_count++;
				break;
			}
		}
		for (int k = 0; k < consonants_len; k++)
		{
			if (arr[i] == consonants[k]) // If consonants fount in string
increase count of consonants
```

```
                        {
                                consonants_count++;
                                break;
                        }
                }
                i++;
        }

        printf("The vowels count in given string is: %d\n", vowels_count);
        printf("The consonants count in given string is: %d\n", consonants_count);

}




/*

Que : 6.Write a C program to reverse a given string as below.
                Eg:
                        Input String: India is my country
                        Output String: aidnI si ym yrtnuoc
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr[100]; // Declaration of Required Variables

        printf("Enter a String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string

        printf("User Input String is: %s", arr);


        printf("The Reverse Order String is: ");
        // Logic to print worls reverse of string.
        int i = 0, flag = 0;
        while (arr[i] != '\0')
        {
                if (arr[i] == '\n') // If string reaches its end break the loop
                {
                        break;
                }
                if (arr[i] == ' ') // Condition for skiping the unnecessary extra white
spaces
                {
                        i++;
                        continue;
                }
                if (arr[i] != ' ')
                {
                        int first_count = i;
```

```
                        while (arr[i] != ' ')
                        {
                                if (arr[i] == '\n')
                                {
                                        break;
                                }
                                i++;
                        }
                        int last_count = i;

                        for (int j = last_count-1; j >= first_count; j--) // Print the
string in reverse
                        {
                                printf("%c", arr[j]);
                        }
                        printf(" "); // For printing space in between two words.
                }
        }
}




/*

Que : 7.Write a C program to replace space with ‘$’ in given string.
                Eg:
                        Input String: India is my country
                        Output String: India$is$my$coutry
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                          *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr[100]; // Declaration of Required Variables

        printf("Enter a String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string

        printf("User Input String is: %s", arr);


        printf("The Modified string is: ");
        // Logic to replace the white spaces with '$' in given string.
        int i = 0, flag = 0;
        while (arr[i] != '\0')
        {
                if (arr[i] == '\n') // If string reaches its end break the loop
                {
                        break;
                }
                if (arr[i] == ' ') // Condition for replacing the white space with '$'
                {
```

```
                        arr[i] = '$';
                        i++;
                        continue;
                }
                if (arr[i] != ' ')
                {
                        i++;
                        continue;
                }
        }

        printf("%s", arr); // Print the modified array.
}




/*

Que : 8. Write a program which accept sentence from user and print number of words
from that sentence.
                Input String: India_is_my_country
                        Output: 4
                Input String: ______India______is____my____country____ (Consider _ as
space)
                        Output: 4
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> // Include Necessary Header Files.

void main() {

        char arr[100]; // Declaration of Required Variables

        printf("Enter a String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string

        printf("User Input String is: %s", arr);


        printf("The Number of words in given string are: ");
        // Logic to count the number of words in given string.
        int i = 0, count = 0;
        while (arr[i] != '\0')
        {
                if (arr[i] == '\n') // If string reaches its end break the loop
                {
                        break;
                }
                if (arr[i] == ' ') // Condition for skiping the white spaces
                {
                        i++;
                        continue;
                }
```

```
			if (arr[i] != ' ')
			{
				count++;
				while (arr[i] != ' ') {
					if (arr[i] == '\n') {
						break;
					}
					i++;
				}
			}
		}

		printf("%d", count); // Print the number of world count in given string.
}




/*

Que : 9. Write a C program to replace Good names in mail.
			Eg:
				Raw String: Hello GoodName
					Input String: India
					Output String: Hello India
					Input String: Sangamner
					Output String: Hello Sangamner
					Input String: technOrbit
					Output String: Hello technOrbit
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> // Include Necessary Header Files.

void main() {

		char arr[100]; // Declaration of Required Variables
		char raw_string[100] = { "Hello GoodName" };

		printf("Enter a String: ");
		//scanf("%s", arr);
		//gets(arr);
		fgets(arr, sizeof(arr), stdin); // Take Input string

		printf("User Input String is: %s", arr);


		printf("The Output string is: ");
		// Logic to replace good names in mail.
		int i = 0, j = 0;

		while (raw_string[j] != ' ') {
			printf("%c", raw_string[j]);
			j++;
		}
		printf(" ");
		while (arr[i] != '\0')
```

```
	{
		if (arr[i] == '\n') // If string reaches its end break the loop
		{
			break;
		}
		printf("%c", arr[i]);
		i++;
	}
}




/*

Que : 10. Write a C program to print all fibonacci series upto each ASCII code of
aphabates in given string.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> // Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);


	// Logic to print fibonacci series upto each ASCII code of aphabates in given
string.
	int i = 0;
	while (arr[i] != '\0')
	{
		if (arr[i] == '\n') // If string reaches its end break the loop
		{
			break;
		}

		int count = arr[i];
		int num1 = 0, num2 = 1, result; // Initialise required variables

		printf("\nFibonacci Series up to Number %d is: ", count);
		printf("%d %d ", num1, num2); // First two default terms of the
fibonacci series

		while (1)
		{
			result = num1 + num2;
			if (result > count) {
				break;
			}
```

```
                        printf("%d ", result);
                        num1 = num2;
                        num2 = result;
                }
                i++;
        }
}
```

```
/*

Que : 11. Write a C program which accepts a string from user which contains a
characters from ‘b’ to ‘y’.
                Eg:
                        Input String: mn jn kn kazfd
                        Output String: mn jn kn k
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr[100]; // Declaration of Required Variables

        printf("Enter a String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string

        printf("User Input String is: %s", arr);

        printf("String with characters containing 'b' to 'y' is: ");
        // Logic to print string containing characters between 'b' to 'y'
        int i = 0;
        while (arr[i] != '\0')
        {
                if (arr[i] == '\n')
                {
                        break;
                }
                if ((arr[i] >= 98 && arr[i] <= 121) || (arr[i] >= 66 && arr[i] <= 89) ||
(arr[i] == 32))
                {
                        printf("%c", arr[i]);
                }
                i++;
        }
}
```

```
/*
```

```
Que : 12. Write a C program which accept sentence from user and print number of small
letters, capital letters, Spaces and digits from that sentence.
              Eg:
                     Input String: abcDE 5Glm1 O
                     Output String: Small: 5 Capital: 4 Digits: 2 Spaces: 2
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

       char arr[100]; // Declaration of Required Variables
       int small_count = 0, capital_count = 0, digit_count = 0, space_count = 0;

       printf("Enter a String: ");
       //scanf("%s", arr);
       //gets(arr);
       fgets(arr, sizeof(arr), stdin); // Take Input string

       printf("User Input String is: %s", arr);

       // Logic to print number of small letters, capital letters, Spaces and digits
       int i = 0;
       while (arr[i] != '\0')
       {
              if (arr[i] == '\n')
              {
                     break;
              }
              if (arr[i] == 32)
              {
                     space_count++;
              }
              else if (arr[i] >= 48 && arr[i] <= 57) {
                     digit_count++;
              }
              else if (arr[i] >= 65 && arr[i] <= 90) {
                     capital_count++;
              }
              else if (arr[i] >= 97 && arr[i] <= 122) {
                     small_count++;
              }
              i++;
       }

       printf("Small: %d  Capital: %d  Digits: %d  Spaces: %d\n", small_count,
capital_count, digit_count, space_count);
}




/*
```

```
Que : 13. Write a C program which accept sentence from user and print number of white
spaces from that sentence.
              Eg:
                     Input String: India is my country
                     Output: 3
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

       char arr[100]; // Declaration of Required Variables
       int space_count = 0;

       printf("Enter a String: ");
       //scanf("%s", arr);
       //gets(arr);
       fgets(arr, sizeof(arr), stdin); // Take Input string

       printf("User Input String is: %s", arr);

       // Logic to print number of Spaces from given string.
       int i = 0;
       while (arr[i] != '\0')
       {
              if (arr[i] == '\n')
              {
                     break;
              }
              if (arr[i] == 32)
              {
                     space_count++;
              }
              i++;
       }

       printf("Number of spaces in given sting: %d", space_count);
}




/*

Que : 14. Write a C program which accept sentence from user and print number of words
of even and odd length from that sentence.
              Eg:
                     Input String: India is my country. I love my country.
                     Output : Even: 6 Odd: 2
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********
```

```c
#include<stdio.h> // Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);


	// Logic to count the number of words of even and odd length from that
sentence.
	int i = 0, even_count = 0, odd_count = 0;
	while (arr[i] != '\0')
	{
		if (arr[i] == '\n') // If string reaches its end break the loop
		{
			break;
		}
		if (arr[i] == ' ') // Condition for skiping the white spaces
		{
			i++;
			continue;
		}
		if (arr[i] != ' ')
		{
			int count = 0;
			while (arr[i] != ' ') {
				if (arr[i] == '\n') {
					break;
				}
				count++;
				i++;
			}
			if (count % 2 == 0) {
				even_count++;
			}
			else {
				odd_count++;
			}
		}
	}

	printf("Even count: %d\nOdd count: %d\n", even_count, odd_count);
}




/*

Que : 15. Write a C program which accept sentence from user and print last word from
that sentence.
		Eg:
			Input String: India is my country
			Output String: country
Owner: Rushikesh Sanjay Pokharkar
```

```
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> // Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);


	// Logic to print last word from the sentence.
	int i = 0, position = 0, letter_count = 0;
	while (arr[i] != '\0')
	{
		if (arr[i] == '\n') // If string reaches its end break the loop
		{
			break;
		}
		if (arr[i] == ' ') // Condition for skiping the white spaces
		{
			i++;
			continue;
		}
		if (arr[i] != ' ')
		{
			position = i;
			int count = 0;
			while (arr[i] != ' ') {
				if (arr[i] == '\n') {
					break;
				}
				count++;
				i++;
			}
			letter_count = count;
		}
	}

	printf("The last word of given sentence is: ");

	for (int i = 0; i < letter_count; i++)
	{
		printf("%c", arr[position]);
		position++;
	}
}




/*
```

```
Que : 16. Write a C program which accept sentence from user and position from user and
print the word at that position.
                    Eg:
                           Input String: India is my country
                           Input Position: 3
                           Output String: my
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> // Include Necessary Header Files.

void main() {

       char arr[100]; // Declaration of Required Variables
       int position;

       printf("Enter a String: ");
       //scanf("%s", arr);
       //gets(arr);
       fgets(arr, sizeof(arr), stdin); // Take Input string

       printf("Enter the position of word: ");
       scanf_s("%d", &position);

       printf("\nUser Input String is: %s", arr);
       printf("Position of the word to print is: %d", position);


       printf("\nThe word at position %d is: ", position);
       // Logic to print the word of Specific position.
       int i = 0, count = 0;
       while (arr[i] != '\0')
       {
              if (arr[i] == '\n') // If string reaches its end break the loop
              {
                     break;
              }
              if (arr[i] == ' ') // Condition for skiping the white spaces
              {
                     i++;
                     continue;
              }
              if (arr[i] != ' ')
              {
                     count++;
                     if (count == position) {
                           while (arr[i] != ' ') {
                                  printf("%c", arr[i]);
                                  i++;
                           }
                     }
                     while (arr[i] != ' ') {
                           if (arr[i] == '\n') {
                                  break;
                           }
                           i++;
```

```
                        }
                        i++;
                }
        }
        printf("\n");
}




/*

Que : 17. Write a C program to convert the string from upper case to lower case.
                Eg:
                        Input String: India Is My Country
                        Output String: india is my country
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr[100]; // Declaration of Required Variables

        printf("Enter a String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string

        printf("User Input String is: %s", arr);

        // Logic to convert uppercase string to lowercase.
        int i = 0;
        while (arr[i] != '\0')
        {
                if (arr[i] == '\n') {
                        break;
                }
                while (arr[i] != ' ')
                {
                        if (arr[i] == '\n') {
                                break;
                        }
                        if (arr[i] >= 65 && arr[i] <= 90) {
                                arr[i] = arr[i] + 32;
                        }
                        i++;
                }
                i++;
        }
        printf("The Lowercase String is: %s", arr); // Print the lowercase array.

}
```

```
/*

Que : 18. Write a C program which toggles the case of a string.
		Eg:
			Input String: technOrbit Infosystems
			Output String: TECHNoRBIT iNFOSYSTEMS
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);

	// Logic to convert given string to toggle case.
	int i = 0;
	while (arr[i] != '\0')
	{
		if (arr[i] == '\n') {
			break;
		}
		while (arr[i] != ' ')
		{
			if (arr[i] == '\n') {
				break;
			}
			if (arr[i] >= 65 && arr[i] <= 90) {
				arr[i] = arr[i] + 32;
			}
			else if (arr[i] >= 97 && arr[i] <= 122) {
				arr[i] = arr[i] - 32;
			}
			i++;
		}
		i++;
	}
	printf("The Toggle Case String is: %s", arr); // Print the lowercase array.

}




/*

Que : 19. Write a C program to check whether given strings are Anagram strings or not.
		Eg:
```

```
                    Input String1: abccd
                    Input String2: cbcda
                    Output String: Strings are anagram
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr1[100], arr2[100]; // Declaration of Required Variables

	printf("Enter a First String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr1, sizeof(arr1), stdin); // Take Input string

	printf("Enter a Second String: ");
	fgets(arr2, sizeof(arr2), stdin); // Take Input string

	printf("User Input First String is: %s", arr1);

	printf("User Input Second String is: %s", arr2);

	// Logic to Check strings are anagram or not.

	int len1 = 0, len2 = 0;
	while (arr1[len1] != '\0') {
		if (arr1[len1] == '\n') {
			len1--;
			break;
		}
		len1++;
	}
	while (arr2[len2] != '\0') {
		if (arr2[len2] == '\n') {
			len2--;
			break;
		}
		len2++;
	}

	int flag1 = 0;

	for (int i = 0; i <= len2; i++)
	{
		int flag = 0;
		for (int j = 0; j <= len1; j++)
		{
			if (arr2[i] == arr1[j]) {
				flag = 1;
				break;
			}
		}

		if (flag == 0) {
			flag1 = 1;
```

```
                        break;
                }
        }

        if (flag1 == 1) {
                printf("Given Strings are not an Anagram Strings\n");
        }
        else {
                printf("Given Strings are Anagram Strings\n");
        }
}




/*

Que : 20. Write a C program which accept string from user and copy that string into
some another string.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr[100], new_arr[100]; // Declaration of Required Variables

        printf("Enter a String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string

        printf("User Input String is: %s", arr);

        // Logic to Copy the given string into some another string.
        int i = 0;
        while (arr[i] != '\0')
        {
                if (arr[i] == '\n') {
                        break;
                }
                new_arr[i] = arr[i];
                i++;
        }
        new_arr[i] = '\0';
        printf("The Copyed String Into Another String is: %s", new_arr); // Print the
lowercase array.

}




/*
```

```
Que : 21.Write a program which accept string from user and copy first N charaters into
some destination string.
                    Eg:
                           Input String: India is my country
                           Input of N: 8
                           Output String: India is
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

       char arr[100], new_arr[100]; // Declaration of Required Variables
       int num;

       printf("Enter a String: ");
       //scanf("%s", arr);
       //gets(arr);
       fgets(arr, sizeof(arr), stdin); // Take Input string

       printf("Enter a Number up to which you want to copy the string: ");
       scanf_s("%d", &num); // Taking input position up to which you want to print the
string.

       printf("User Input String is: %s", arr);

       // Logic to Copy the given string into some another string Only up to n
characters.
       int i = 0, count = 0;
       while (arr[i] != '\0')
       {
              if (arr[i] == '\n') {
                     break;
              }
              if (count == num) {
                     break;
              }
              new_arr[i] = arr[i];
              count++;
              i++;
       }
       new_arr[i] = '\0';
       printf("The Output String Up To %d characters is: %s", num,  new_arr); // Print
the lowercase array.

}




/*

Que : 22. Write a C program which accept string from user and accept number N then
copy last N character into some another string.
                    Eg:
                           Input String: India is my
```

```
                        Input of N: 5
                        Output String: is my
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      ********  Solution  ********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100], new_arr[100]; // Declaration of Required Variables
	int num;

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("Enter a Number up to which you want to copy the Last string: ");
	scanf_s("%d", &num); // Taking input position up to which you want to print the
string.

	printf("User Input String is: %s", arr);

	// Logic to Copy the given string into some another string Only up to n
characters From last.

	int len_arr = 0;
	int i = 0;
	while (arr[i] != '\0') // While loop to calculate the length of sring.
	{
		if (arr[i] == '\n') {
			break;
		}
		len_arr++;
		i++;
	}

	int position = len_arr - num;


	i = position;
	int j = 0;
	while (arr[i] != '\0') // While loop to copy some characters into new string.
	{
		if (arr[i] == '\n') {
			break;
		}
		new_arr[j] = arr[i];
		i++, j++;
	}
	new_arr[j] = '\0';
	printf("The Output String Up To %d characters From Last of string is: %s", num,
new_arr);

}
```

```
/*

Que : 23. Write a C program which accept two strings from user and append second
string after first string.
              Eg:
                     Input String: India Country
                     Output String: IndiaCountry
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

       char arr1[100], arr2[100]; // Declaration of Required Variables

       printf("Enter a First String: ");
       //scanf("%s", arr);
       //gets(arr);
       fgets(arr1, sizeof(arr1), stdin); // Take Input string1

       printf("Enter a Second String: ");
       fgets(arr2, sizeof(arr2), stdin); // Take Input string2

       printf("User Input First String is: %s", arr1);

       printf("User Input Second String is: %s", arr2);

       int i = 0, count = 0;
       while (arr1[i] != '\0') {
              if (arr1[i] == '\n') {
                     break;
              }
              count++;
              i++;
       }

       int j = 0;
       while (arr2[j] != '\0') {
              if (arr2[j] == '\n') {
                     break;
              }
              arr1[count] = arr2[j];
              count++;
              j++;
       }
       arr1[count] = '\0';

       printf("The appended Second string into First string is: %s", arr1);

}
```

```
/*

Que : 24. Write a C program which accept two strings from user and append N characters
of second string after first string.
              Eg:
                     Input String: India Country
                     Input of N: 4
                     Output String: IndiaCoun
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

       char arr1[100], arr2[100]; // Declaration of Required Variables
       int num;

       printf("Enter a First String: ");
       //scanf("%s", arr);
       //gets(arr);
       fgets(arr1, sizeof(arr1), stdin); // Take Input string1

       printf("Enter a Second String: ");
       fgets(arr2, sizeof(arr2), stdin); // Take Input string2

       printf("Enter a Number: ");
       scanf_s("%d", &num); // Enter a number to append the second string up to that
number

       printf("User Input First String is: %s", arr1);

       printf("User Input Second String is: %s", arr2);

       // Logic to append N characters of second string after first string.
       int i = 0, count = 0;
       while (arr1[i] != '\0') // While loop to count the length of first array.
       {
              if (arr1[i] == '\n') {
                     break;
              }
              count++;
              i++;
       }

       int j = 0, arr2_count = 0;
       while (arr2[j] != '\0') {
              if (arr2[j] == '\n') {
                     break;
              }
              if (arr2_count == num) {
                     break;
              }
              arr1[count] = arr2[j];
              count++;
              arr2_count++;
              j++;
```

```
	}
	arr1[count] = '\0';

	printf("The appended Second string of First %d characters into First string
is: %s", num, arr1);

}




/*

Que : 25. Write a C program which accept two strings from user and compare two
strings. If both strings are equal then return 0 otherwise return difference between
first mismatch character.
			Eg:
				Input String1: India is my country.
				Input String2: India is my country.
				Output: Both strings are equal.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr1[100], arr2[100]; // Declaration of Required Variables

	printf("Enter a First String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr1, sizeof(arr1), stdin); // Take Input string1

	printf("Enter a Second String: ");
	fgets(arr2, sizeof(arr2), stdin); // Take Input string2

	printf("User Input First String is: %s", arr1);

	printf("User Input Second String is: %s", arr2);

	// Logic to compare two strings.
	int i = 0, num1, num2, flag = 0;
	while (arr1[i] != '\0') {
		if (arr1[i] == '\n') {
			break;
		}
		if (arr1[i] != arr2[i]) {
			num1 = arr1[i];
			num2 = arr2[i];
			flag = 1;
			break;
		}
		i++;
	}

	if (flag == 0) {
```

```
			printf("0 (Both Strings are Equal)");
		}
		else {
			printf("%d (Both Strings are Not Equal)", num1-num2);
		}

}




/*

Que : 26. Write a C program which accept two strings from user and compare only first
N characters of two strings. If both strings are equal till first N characters then
return 0 otherwise return difference between first mismatch character.
                    Eg:
                            Input String1: Ramayan
                            Input String2: Ramanacharya
                            Input of N: 4
                            Output: Both strings are equal.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

		char arr1[100], arr2[100]; // Declaration of Required Variables
		int num;

		printf("Enter a First String: ");
		//scanf("%s", arr);
		//gets(arr);
		fgets(arr1, sizeof(arr1), stdin); // Take Input string1

		printf("Enter a Second String: ");
		fgets(arr2, sizeof(arr2), stdin); // Take Input string2

		printf("Enter a Number Upto Which You Want To Compare The String:");
		scanf_s("%d", &num); // Input number upto which you want to compare the strings

		printf("User Input First String is: %s", arr1);

		printf("User Input Second String is: %s", arr2);

		printf("The Number Upto Which You Want TO Compare The Strings is: %d\n", num);

		// Logic to compare the strigns upto first N characters.
		int i = 0, num1, num2, flag = 0, count = 0;
		while (arr1[i] != '\0') {
			if (arr1[i] == '\n') {
				break;
			}
			if (arr1[i] != arr2[i]) {
				num1 = arr1[i];
				num2 = arr2[i];
```

```
                        flag = 1;
                        break;
                }
                count++;
                if (count == num) {
                        break;
                }
                i++;
        }

        if (flag == 0) {
                printf("0 (Both Strings are Equal Upto %d Characters)", num);
        }
        else {
                printf("%d (Both Strings are Not Equal Upto %d Characters)", num1 -
num2, num);
        }

}




/*

Que : 27. Write a C program which accept two strings from user and compare two strings
without case sensitivity. If both strings are equal then return 0 otherwise return
difference between first mismatch character.
                        Eg:
                                Input String1: india Is mY cOuntry
                                Input String2: INDIA is MY countrY
                                Output: Both strings are equal.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr1[100], arr2[100]; // Declaration of Required Variables

        printf("Enter a First String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr1, sizeof(arr1), stdin); // Take Input string1

        printf("Enter a Second String: ");
        fgets(arr2, sizeof(arr2), stdin); // Take Input string2

        printf("User Input First String is: %s", arr1);

        printf("User Input Second String is: %s", arr2);

        // Logic to compare two strings without case sensitivity.
        int i = 0, num1, num2, flag = 0;
        while (arr1[i] != '\0') {
                if (arr1[i] == '\n') {
```

```
                        break;
                }
                if (arr1[i] != arr2[i])
                {
                        int high = arr1[i] > arr2[i] ? arr1[i] : arr2[i];
                        int low = arr1[i] < arr2[i] ? arr1[i] : arr2[i];
                        if (high - 32 == low) {
                                i++;
                                continue;
                        }
                        num1 = arr1[i];
                        num2 = arr2[i];
                        flag = 1;
                        break;
                }
                i++;
        }

        if (flag == 0) {
                printf("0 (Both Strings are Equal)");
        }
        else {
                printf("%d (Both Strings are Not Equal)", num1 - num2);
        }

}




/*

Que : 28. Write a C program which accept string from user and then reverse the string
till first N characters without taking another string.
                        Eg:
                                Input String: India is my country
                                Input of N: 8
                                Output : si aidnI my country
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

        char arr[100]; // Declaration of Required Variables
        int num;

        printf("Enter a First String: ");
        //scanf("%s", arr);
        //gets(arr);
        fgets(arr, sizeof(arr), stdin); // Take Input string1

        printf("Enter a number Upto Which You Want To Reverse The String: ");
        scanf_s("%d", &num);

        int len = 0;
```

```
	while (arr[len] != '\0') {
		if (arr[len] == '\n') {
			break;
		}
		len++;
	}

	if (num < 0 || num > len) {
		printf("Invalid Number..");
		exit(0);
	}

	printf("User Input String is: %s", arr);

	// Logic to reverse the string of first N characters without usig another
string.
	int temp = num;
	int mid = num / 2;

	int i = 0;
	while (mid > 0)
	{
		char Ch = arr[i];
		arr[i] = arr[num-1];
		arr[num-1] = Ch;
		i++, mid--, num--;
	}

	printf("The reverse string up to %d characters is: %s", temp, arr);
}




/*

Que : 29. Write a C program which accept string from user and then accept range and
reverse the string in that range without taking another string.
			Eg:
				Input String: India is my country
				Input of N1: 3
				Input of N1: 9
				Output String: Indm si aicountry
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables
	int num1,num2;

	printf("Enter a First String: ");
	//scanf("%s", arr);
```

```
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string1

	printf("Enter a number From Which You Want To Reverse The String: ");
	scanf_s("%d", &num1);

	printf("Enter a number Upto Which You Want To Reverse The String: ");
	scanf_s("%d", &num2);

	int len = 0;
	while (arr[len] != '\0') {
		if (arr[len] == '\n') {
			break;
		}
		len++;
	}

	if (num1 < 0 || num2 > len) {
		printf("Invalid Number..");
		exit(0);
	}

	printf("User Input String is: %s", arr);

	// Logic to reverse the string into some range of characters.
	int temp1 = num1;
	int temp2 = num2;
	int mid = (num1+num2) / 2;

	int i = num1-1;
	while (mid > num1)
	{
		char Ch = arr[i];
		arr[i] = arr[num2 - 1];
		arr[num2 - 1] = Ch;
		i++, mid--, num2--;
	}

	printf("The reverse string From %d to %d characters is: %s", temp1, temp2,
arr);
}
```

```
/*

Que : 30. Write a C program which accept string from user and reverse words from that
string which are of even length.
		Eg:
			Input String: India is my country. I love my country.
			Output String: India si ym .yrtnuoc I evol ym . Yrtnuoc
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                      *********  Solution  *********
```

```c
#include<stdio.h> //Include Necessary Header Files.

void main() {

	char arr[100]; // Declaration of Required Variables

	printf("Enter a String: ");
	//scanf("%s", arr);
	//gets(arr);
	fgets(arr, sizeof(arr), stdin); // Take Input string

	printf("User Input String is: %s", arr);


	printf("The Reverse Order String is: ");
	// Logic to print even words reverse of string.
	int i = 0, flag = 0;
	while (arr[i] != '\0')
	{
		if (arr[i] == '\n') // If string reaches its end break the loop
		{
			break;
		}
		if (arr[i] == ' ') // Condition for skiping the unnecessary extra white
spaces
		{
			printf("%c", arr[i]);
			i++;
			continue;
		}
		if (arr[i] != ' ')
		{
			int first_count = i;
			while (arr[i] != ' ')
			{
				if (arr[i] == '\n')
				{
					break;
				}
				i++;
			}
			int last_count = i;
			if ((last_count - first_count) % 2 == 0) {
				for (int j = last_count-1; j >= first_count; j--) // Print
the string in reverse
				{
					printf("%c", arr[j]);
				}
			}
			else {

				for (int j = first_count; j <= last_count-1; j++) // Print
the string
				{
					printf("%c", arr[j]);
				}
			}
		}
	}
}
```

```
/*

Que : 31. Write a C program which accept string from user and check whether string is
palindrome or not.
                    Eg:
                           Input String: level
                           Output String: String is palindrome.
Owner: Rushikesh Sanjay Pokharkar
Batch: PPA9

*/

//                                        *********  Solution  *********


#include<stdio.h> //Include Necessary Header Files.

void main() {

       char arr[100], rev_arr[100]; // Declaration of Required Variables

       printf("Enter a String: ");
       //scanf("%s", arr);
       //gets(arr);
       fgets(arr, sizeof(arr), stdin); // Take Input string

       printf("User Input String is: %s", arr);

       // Logic to Check string is pallindrome or not

       int len = 0;
       while (arr[len] != '\0') {
              if (arr[len] == '\n') {
                     len--;
                     break;
              }
              len++;
       }
       int i = 0;
       while (len >= 0)
       {
              rev_arr[i] = arr[len];
              i++, len--;
       }
       rev_arr[i] = '\0';

       int j = 0, flag = 0;
       while (arr[j] != '\0')
       {
              if (arr[j] == '\n') {
                     break;
              }
              if (arr[j] != rev_arr[j]) {
                     flag = 1;
                     break;
              }
              j++;
       }

       if (flag == 0) {
```

```
                printf("Given String is a Pallindrome String.\n");
        }
        else {
                printf("Given String is not a Pallindrome String.\n");
        }
}
```