

1.

```
1 #include <string.h>
2 #include <stdio.h>
3
4 int main(void)
5 {
6     //variables declaration
7     int Passwordlength, DeductPoints;
8     char password[20];
9
10    //read user input of password string
11    printf("Enter a password: ");
12    scanf("%s", password);
13
14    //calculate length of password string
15    Passwordlength = strlen(password);
16
17    //when password string length is less than 10 characters
18    //deduct 5 points for each missing character
19    //calculate deduction points
20    DeductPoints = (10-Passwordlength)*5;
21
22    //when password is unsafe
23    if(DeductPoints>30)
24    {
25        //display deduction points
26        printf("\nDeduction = %d points\n", DeductPoints);
27        //display result
28        printf("The password is unsafe! Please reset.");
29    }
30 }
```

Input

Enter a password: ShivBrahmbhatt@123

The password is safe.

...Program finished with exit code 0
Press ENTER to exit console.

```
1 #include <string.h>
2 #include <stdio.h>
3
4 int main(void)
5 {
6     //variables declaration
7     int Passwordlength, DeductPoints;
8     char password[20];
9
10    //read user input of password string
11    printf("Enter a password: ");
12    scanf("%s", password);
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14    //calculate length of password string
15    Passwordlength = strlen(password);
16
17    //when password string length is less than 10 characters
18    //deduct 5 points for each missing character
19    //calculate deduction points
20    DeductPoints = (10-Passwordlength)*5;
21
22    //when password is unsafe
23    if(DeductPoints>30)
24    {
25        //display deduction points
26        printf("\nDeduction = %d points\n", DeductPoints);
27        //display result
28        printf("The password is unsafe! Please reset.");
29    }
30 }
```

Input

Enter a password: ccc

Deduction = 35 points
The password is unsafe! Please reset.

...Program finished with exit code 0
Press ENTER to exit console.

2.

```
1 #include <stdio.h>
2 #include <string.h>
3
4 int main()
5 {
6     char password[25]; //declare char array for storing the password...
7     int points = 100, len; //declare initially points = 100...
8     int lower_count = 0, upper_count = 0, num_count = 0, consecutive_count = 0;
9     printf("Enter the password: ");
10    scanf("%s", password); //Take password from the user...
11
12    len = strlen(password); //check the length of the password...
13
14    //Check the missing lower case in the password
15    for(int i=0; i<len; i++)
16    {
17        if(password[i] >= 'a' && password[i] <= 'z')
18        {
19            lower_count += 1;
20        }
21    }
22
23    if(lower_count <= 0)
24    {
25        points -= 20; //decrease points by 20
26    }
27 }
```

Input

Enter the password: ShivBrahmbhatt@123
The points for your password out of 100 is: 80
Your password is SAFE for your confidential data...

...Program finished with exit code 0
Press ENTER to exit console.

3.

```
1 #include <stdio.h>
2 #include <string.h>
3
4 int isPalindrome(char arr[])
5 {
6     int size = strlen(arr);
7
8     int i = 0, j = size-1;
9
10    for(i=0; i<j; i++){
11
12        if(arr[i] == ' ')
13        {
14            i++;
15            continue;
16        }
17
18        if(arr[j] == ' ')
19        {
20            j--;
21            continue;
22        }
23
24        if(arr[i] != arr[j])
25        {
26            return 0;
27        }
28    }
29    return 1;
30 }
```

Input

Enter string: racecar
It's a palindrome

...Program finished with exit code 0
Press ENTER to exit console.

```
1 #include <stdio.h>
2 #include <string.h>
3
4 int isPalindrome(char arr[])
5 {
6     int size = strlen(arr);
7
8     int i = 0, j = size-1;
9
10    for(i= 0; i<j;){
11
12        if(arr[i] == ' ')
13        {
14            i++;
15            continue;
16        }
17
18        if(arr[j] == ' ')
19        {
20            j--;
21            continue;
22        }
23
24        if(arr[i] != arr[j])
25        {
26            return 0;
27        }
28    }
29    return 1;
30 }
```

Input

Enter string: Shiv
It's not a palindrome

...Program finished with exit code 0
Press ENTER to exit console.

4.

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 int main()
4 {
5     char *str1 = malloc(sizeof(char) * 10000);
6     char *str2 = malloc(sizeof(char) * 10000);
7
8     printf("Please enter the sentence1: ");
9     scanf("%[^\n]%*c", str1);
10    printf("Please enter the sentence2: ");
11    scanf("%[^\n]%*c", str2);
12    //Swapping
13    //subtracting str1 and str2 and adding str1 and assign to str1
14    str1 = str1 + (str1 - str2);
15    //subtracting str1 and str2 and then dividing by 2
16    //and subtracting from str1 and assign it to str2
17    str2 = str1 - (str1 - str2) / 2;
18    //subtracting str1 and str2 and multiplying by 2 and subtracting from str1
19    str1 = str1 - (str1 - str2) * 2;
20    printf("After Swapping of two sentences : ");
21    //printing strings after swapping
22    printf("\nThe first sentence is : %s", str1);
23    printf("\nThe second sentence is : %s", str2);
24    return 0;
25 }
```

Input

Please enter the sentence1: Hi Shiv
Please enter the sentence2: Hi Professor
After Swapping of two sentences :
The first sentence is : Hi Professor
The second sentence is : Hi Shiv

...Program finished with exit code 0
Press ENTER to exit console.

5.

```
1 #include <stdio.h>
2 #define COUNTRY_COUNT ((int)(sizeof(country_codes) / sizeof(country_codes[0]))) //a defined macro to calculate the size of the country code
3
4 struct dialing_code
5 {
6     char *country;
7     int code;
8 };
9
10 const struct dialing_code country_codes[] =
11 {{"Argentina", 54}, {"Bangladesh ", 880},
12 {"Brazil", 55}, {"Burma (Myanmar) ", 95},
13 {"China", 86}, {"Colombia", 57},
14 {"Congo, Dem. Rep. of", 243}, {"Egypt", 20},
15 {"Ethiopia", 251}, {"France", 33},
16 {"Germany", 49}, {"India", 91},
17 {"Indonesia", 62}, {"Iran", 98},
18 {"Italy", 39}, {"Japan", 81},
19 {"Mexico", 52}, {"Nigeria", 234},
20 {"Poland", 48}, {"South Africa", 27},
21 {"Spain", 34}, {"Thailand", 66}};
22
23 int main()
24 {
25     int code, i;
26
27     // Input
28     printf("Enter dialing code: ");
29     int input;
30     scanf("%d", &input);
31
32     // Search
33     for (i = 0; i < COUNTRY_COUNT; i++)
34     {
35         if (country_codes[i].code == input)
36         {
37             printf("The country with dialing code %d is %s\n", input, country_codes[i].country);
38             break;
39         }
40     }
41
42     if (i == COUNTRY_COUNT)
43     {
44         printf("Country not found\n");
45     }
46
47     return 0;
48 }
```

Enter dialing code: 91
The country with dialing code 91 is India

...Program finished with exit code 0
Press ENTER to exit console.