```c
#include <stdio.h>

int main() {
    char str[100];
    int count = 0;

    printf("Enter a string: ");
    gets(str);

    while(str[count] != '\0')
        count++;

    printf("Length = %d", count);
    return 0;
}
```

```
rajatsingh@Rajats-MacBook-Air ~ % cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
ly recommended that you use fgets(3) instead.")
        |  ^
/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/sys/cdefs.h:227:48: note: expanded from macro '__deprecated_msg'
  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
        |                                                ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: Hello World
Length = 11
rajatsingh@Rajats-MacBook-Air ~ %
```

```c
#include <stdio.h>

int main() {
    char str[100];
    int i;

    printf("Enter a string: ");
    gets(str);

    for(i = 0; str[i] != '\0'; i++)
        printf("%c\n", str[i]);

    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
rajatsingh@Rajats-MacBook-Air ~ % cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
tempCodeRunnerFile.c:8:5: warning: 'gets' is deprecated: This function is provided for compatibility reasons only.  Due to security concerns inherent in th
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    8 |     gets(str);
      |     ^
/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/_stdio.h:260:1: note: 'gets' has been explicitly marked deprecated here
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/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/sys/cdefs.h:227:48: note: expanded from macro '__deprecated_msg'
  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: CAT
C
A
T
rajatsingh@Rajats-MacBook-Air ~ %
```

```c
#include <stdio.h>

int main() {
    char str[100];
    int i, v=0, c=0;

    printf("Enter a string: ");
    gets(str);

    for(i = 0; str[i] != '\0'; i++) {
        char ch = str[i];
        if(ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u'||
           ch=='A'||ch=='E'||ch=='I'||ch=='O'||ch=='U')
            v++;
        else if((ch>='a' && ch<='z') || (ch>='A' && ch<='Z'))
            c++;
    }

    printf("Vowels = %d\nConsonants = %d", v, c);
    return 0;
}
```
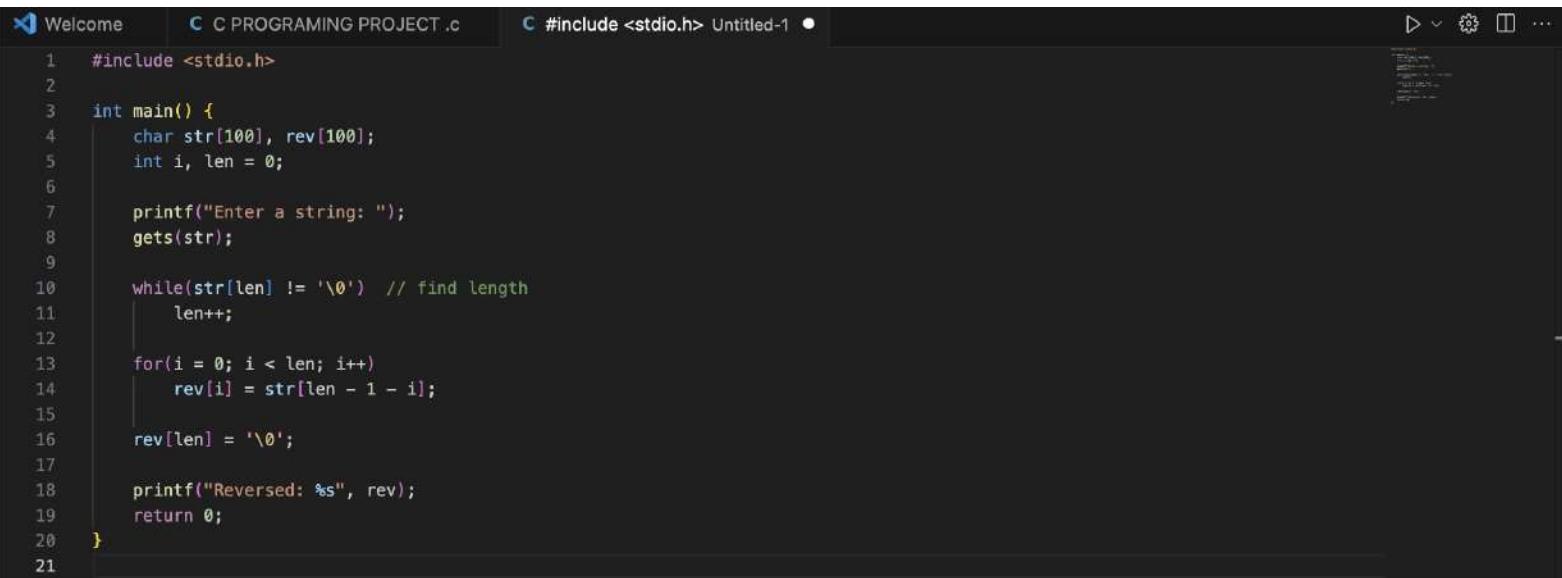
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
rajatsingh@Rajats-MacBook-Air ~ % cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
tempCodeRunnerFile.c:8:5: warning: 'gets' is deprecated: This function is provided for compatibility reasons only.  Due to security concerns inherent in th
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    8 |     gets(str);
      |     ^
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/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/sys/cdefs.h:227:48: note: expanded from macro '__deprecated_msg'
  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: Apple
Vowels = 2
Consonants = 3
rajatsingh@Rajats-MacBook-Air ~ %
```
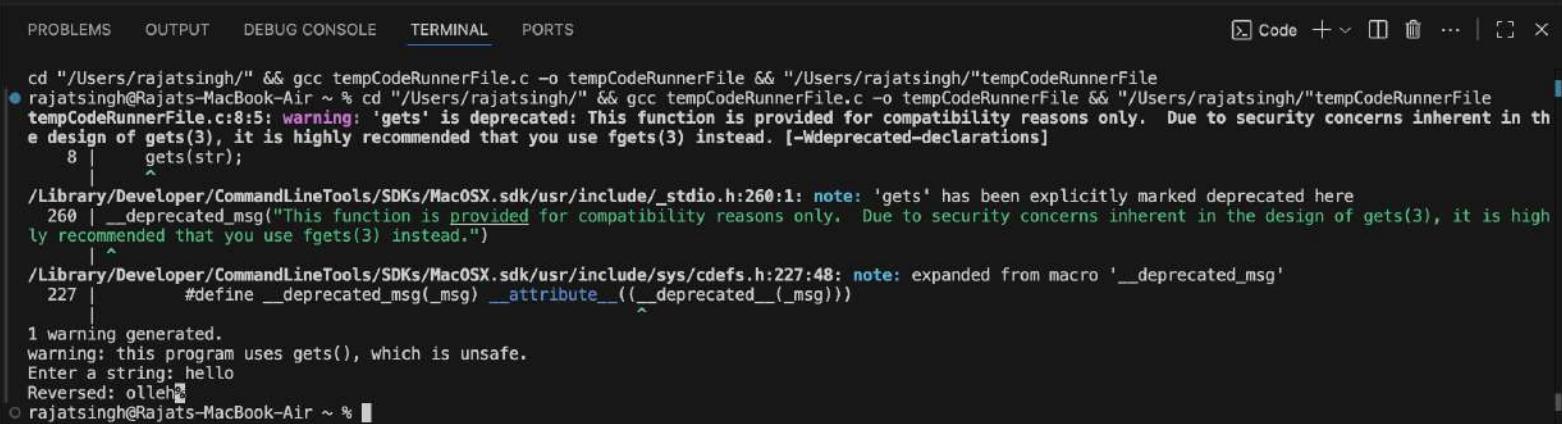
```c
#include <stdio.h>

int main() {
    char str[100];
    int i;

    printf("Enter lowercase string: ");
    gets(str);

    for(i = 0; str[i] != '\0'; i++)
        if(str[i] >= 'a' && str[i] <= 'z')
            str[i] = str[i] - 32;

    printf("Uppercase: %s", str);
    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
rajatsingh@Rajats-MacBook-Air ~ % cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
tempCodeRunnerFile.c:8:5: warning: 'gets' is deprecated: This function is provided for compatibility reasons only.  Due to security concerns inherent in th
e design of gets(3), it is highly recommended that you use fgets(3) instead. [-Wdeprecated-declarations]
    8 |     gets(str);
      |     ^
/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/_stdio.h:260:1: note: 'gets' has been explicitly marked deprecated here
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      |
/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/sys/cdefs.h:227:48: note: expanded from macro '__deprecated_msg'
  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter lowercase string: hello world
Uppercase: HELLO WORLD
rajatsingh@Rajats-MacBook-Air ~ %
```

```c
#include <stdio.h>

int main() {
    char str[100], rev[100];
    int i, len = 0;

    printf("Enter a string: ");
    gets(str);

    while(str[len] != '\0')  // find length
        len++;

    for(i = 0; i < len; i++)
        rev[i] = str[len - 1 - i];

    rev[len] = '\0';

    printf("Reversed: %s", rev);
    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
● rajatsingh@Rajats-MacBook-Air ~ % cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
tempCodeRunnerFile.c:8:5: warning: 'gets' is deprecated: This function is provided for compatibility reasons only.  Due to security concerns inherent in th
e design of gets(3), it is highly recommended that you use fgets(3) instead. [-Wdeprecated-declarations]
    8 |     gets(str);
      |     ^
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  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: hello
Reversed: olleh
○ rajatsingh@Rajats-MacBook-Air ~ % ▮
```

```c
#include <stdio.h>

int main() {
    char str[100];
    int i, len = 0, flag = 1;

    printf("Enter a string: ");
    gets(str);

    while(str[len] != '\0')
        len++;

    for(i = 0; i < len/2; i++)
        if(str[i] != str[len - 1 - i])
            flag = 0;

    if(flag)
        printf("Palindrome");
    else
        printf("Not Palindrome");

    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
rajatsingh@Rajats-MacBook-Air ~ % cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
tempCodeRunnerFile.c:8:5: warning: 'gets' is deprecated: This function is provided for compatibility reasons only.  Due to security concerns inherent in th
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    8 |     gets(str);
      |     ^
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  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: madam
Palindrome%
rajatsingh@Rajats-MacBook-Air ~ %
```

```c
#include <stdio.h>

int main() {
    char str[200];
    int i, space=0, digit=0, special=0;

    printf("Enter a string: ");
    gets(str);

    for(i = 0; str[i] != '\0'; i++) {
        if(str[i] == ' ')
            space++;
        else if(str[i] >= '0' && str[i] <= '9')
            digit++;
        else if(!(str[i] >= 'a' && str[i] <= 'z') &&
                !(str[i] >= 'A' && str[i] <= 'Z'))
            special++;
    }

    printf("Spaces = %d\nDigits = %d\nSpecial Characters = %d",
            space, digit, special);

    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
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      |     ^
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      | ^
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  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: Hi 123 @#!
Spaces = 2
Digits = 3
Special Characters = 3
rajatsingh@Rajats-MacBook-Air ~ %
```

```c
#include <stdio.h>

int main() {
    char str[200];
    int i;

    printf("Enter a string: ");
    gets(str);

    for(i = 0; str[i] != '\0'; i++)
        if(str[i] == ' ')
            str[i] = '-';

    printf("Output: %s", str);
    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
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  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                                ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: hello world program
Output: hello-world-program
rajatsingh@Rajats-MacBook-Air ~ %
```

```c
#include <stdio.h>

int main() {
    char str[200], ch;
    int i, count = 0;

    printf("Enter a string: ");
    gets(str);
    printf("Enter character to count: ");
    scanf("%c", &ch);

    for(i = 0; str[i] != '\0'; i++)
        if(str[i] == ch)
            count++;

    printf("Frequency of '%c' = %d", ch, count);
    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
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  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: banana
Enter character to count: a
Frequency of 'a' = 3
rajatsingh@Rajats-MacBook-Air ~ %
```

Restart Visual Studio

```c
#include <stdio.h>

int main() {
    char str[200];
    int i;

    printf("Enter a string: ");
    gets(str);

    for(i = 0; str[i] != '\0'; i++) {
        if(str[i] >= 'a' && str[i] <= 'z')
            str[i] = str[i] - 32;
        else if(str[i] >= 'A' && str[i] <= 'Z')
            str[i] = str[i] + 32;
    }

    printf("Toggled Case: %s", str);
    return 0;
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
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  227 |         #define __deprecated_msg(_msg) __attribute__((__deprecated__(_msg)))
      |                                                        ^
1 warning generated.
warning: this program uses gets(), which is unsafe.
Enter a string: HeLLo WoRLd
Toggled Case: hEllO wOrLD
rajatsingh@Rajats-MacBook-Air ~ %
```