

## **ASSIGNMENT ON C**

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### **String Handling Functions**

Define a string.

A string is any series of characters that are interpreted literally by a script.

For example, "hello world" and "LKJH019283" are both examples of strings.

#### The String Handling Functions

\* C programming language provides a set of pre-defined functions called string handling functions to work with string values.

\*Packaged in string.h Library.

The string Handling Functions are as follows:

- strcat()

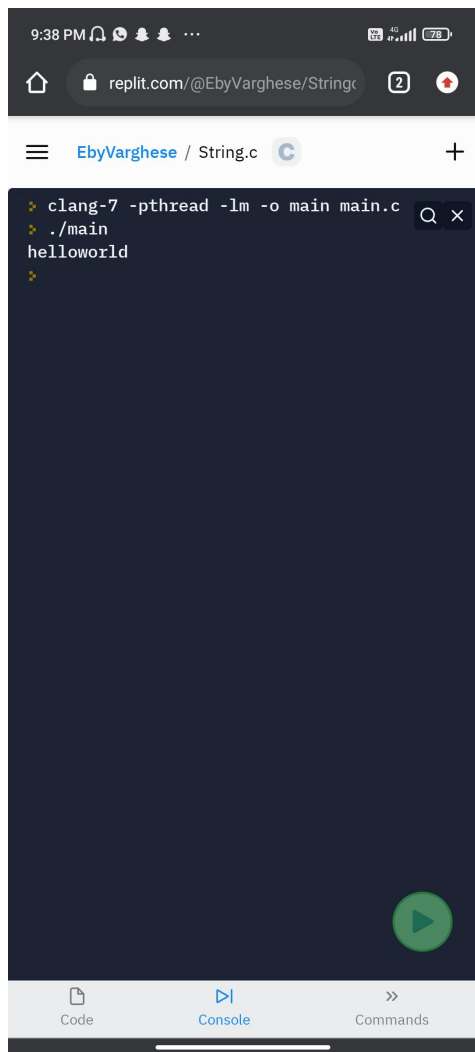
This function is used to concatenate two strings.

Program:

The screenshot shows a mobile application interface for Replit. At the top, there is a status bar with the time 9:38 PM, signal strength, and battery level at 78%. Below this is a browser-like address bar showing the URL 'replit.com/@EbyVarghese/String.c'. The main area of the app displays a code editor for a file named 'main.c'. The code is written in C and includes headers for stdio.h and string.h. It defines a main function that declares two character arrays, 'str1' and 'str2', with values 'hello' and 'world' respectively. It then uses 'printf' to output the concatenated string 'hello world' and returns 0. A blue cursor is positioned at the end of line 9. To the right of the code editor is a 'Files' icon. At the bottom of the screen, there is a navigation bar with three tabs: 'Code' (selected), 'Console', and 'Commands'. A green play button icon is located in the bottom right corner of the code editor area.

```
main.c
1 #include <stdio.h>
2 #include<string.h>
3 int main(void)
4 {
5     char str1[]="hello";
6     char str2[]="world";
7     printf("%s\n",strcat(str1,str2));
8     return 0;
9 }
```

Output:



The screenshot shows a mobile browser interface with a Replit terminal. The status bar at the top indicates the time is 9:38 PM, and the battery is at 78%. The browser address bar shows the URL `replit.com/@EbyVarghese/Stringc`. The page title is `EbyVarghese / String.c`. The terminal window has a dark background and shows the following commands and output:

```
> clang-7 -pthread -lm -o main main.c
> ./main
helloworld
>
```

At the bottom of the terminal, there is a green play button icon. Below the terminal, there is a navigation bar with three tabs: `Code`, `Console` (which is selected), and `Commands`.

- `strrev()`

This function is used to get the reverse of the given input.

Program:

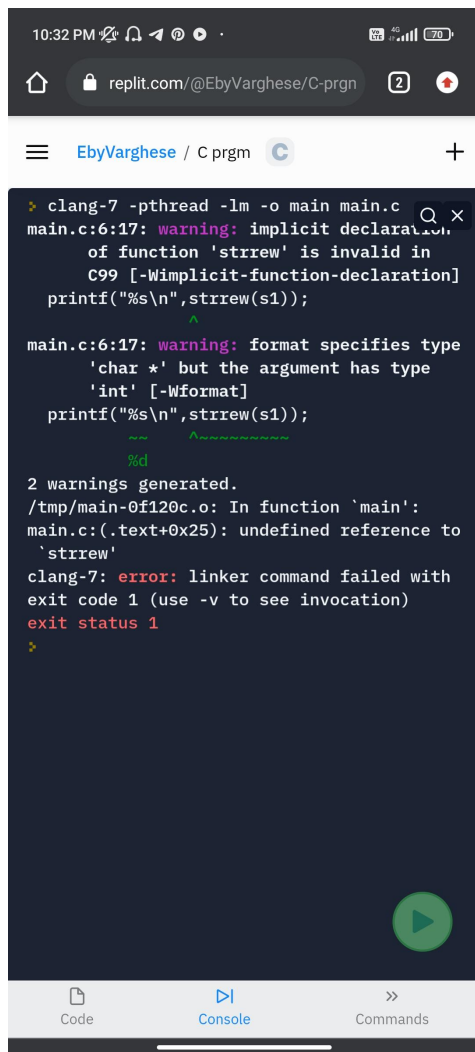


The screenshot shows a mobile application interface for Replit. At the top, the status bar displays the time 10:31 PM, signal strength, and battery level at 70%. Below the status bar is a browser address bar showing the URL `replit.com/@EbyVarghese/C-prgm`. The main header area includes the username `EbyVarghese`, the project name `C prgm`, and a refresh icon. The code editor displays a file named `main.c` with the following C code:

```
1 #include<stdio.h>
2 #include<string.h>
3 int main(void)
4 {
5     char s1[]="hello";
6     printf("%s\n",strrev(s1));
7 }
```

At the bottom of the screen, there is a green circular play button icon. Below the code editor is a navigation bar with three tabs: `Code`, `Console`, and `Commands`.

Output:



The screenshot shows a mobile browser interface with the URL `replit.com/@EbyVarghese/C-prgm`. The page title is `EbyVarghese / C prgm`. The terminal output is as follows:

```
> clang-7 -pthread -lm -o main main.c
main.c:6:17: warning: implicit declaration of function 'strrew' is invalid in C99 [-Wimplicit-function-declaration]
printf("%s\n",strrew(s1));
                  ^
main.c:6:17: warning: format specifies type 'char *' but the argument has type 'int' [-Wformat]
printf("%s\n",strrew(s1));
                  ^~~~~~
                  %d
2 warnings generated.
/tmp/main-0f120c.o: In function `main':
main.c:(.text+0x25): undefined reference to `strrew'
clang-7: error: linker command failed with exit code 1 (use -v to see invocation)
exit status 1
>
```

At the bottom of the terminal window, there is a green play button icon. Below the terminal, there are three tabs: `Code`, `Console` (which is selected), and `Commands`.

- `strlen()`

This function is used to find the length of the given string.

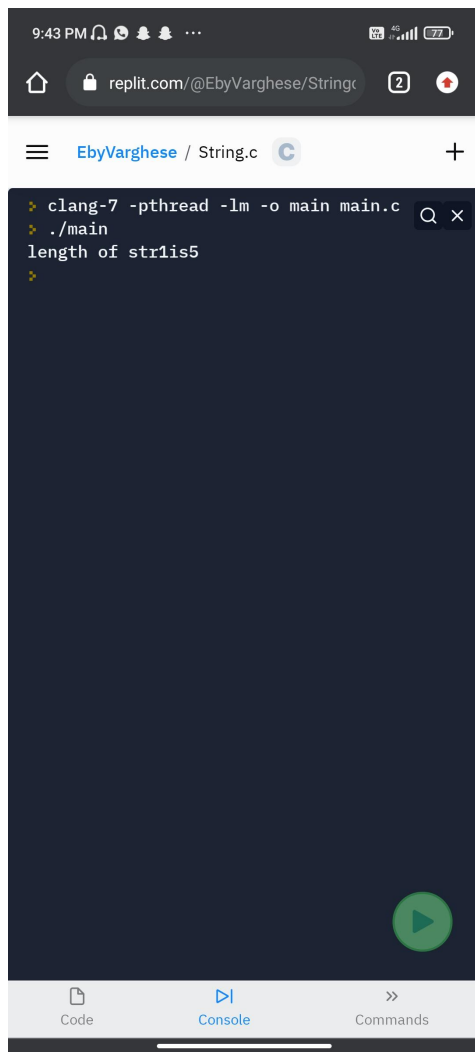
Program:

The screenshot shows a mobile application interface for Replit. At the top, the status bar displays the time as 9:42 PM, along with various notification icons and a battery level of 77%. Below the status bar, the address bar shows the URL 'replit.com/@EbyVarghese/Stringc'. The main content area displays a C program in a code editor. The code is as follows:

```
main.c
1 #include <stdio.h>
2 #include<string.h>
3 int main(void)
4 {
5     char str1[]="hello";
6     char str2[]="world";
7     int len =strlen(str1);
8     printf("length of str1is%d\n",len);
9     return 0;
10 }
```

At the bottom of the screen, there is a navigation bar with three tabs: 'Code', 'Console', and 'Commands'. The 'Code' tab is currently selected. A green play button icon is visible in the bottom right corner of the code editor area.

Output:



The screenshot shows a mobile browser interface with a Replit terminal. The terminal window is titled "EbyVarghese / String.c" and contains the following commands and output:

```
> clang-7 -pthread -lm -o main main.c
> ./main
length of str1is5
```

At the bottom of the terminal, there is a green play button icon. Below the terminal, there is a navigation bar with three tabs: "Code", "Console", and "Commands". The "Console" tab is currently selected.

- strcpy()

This function is used to copy one string to another string.

Program:

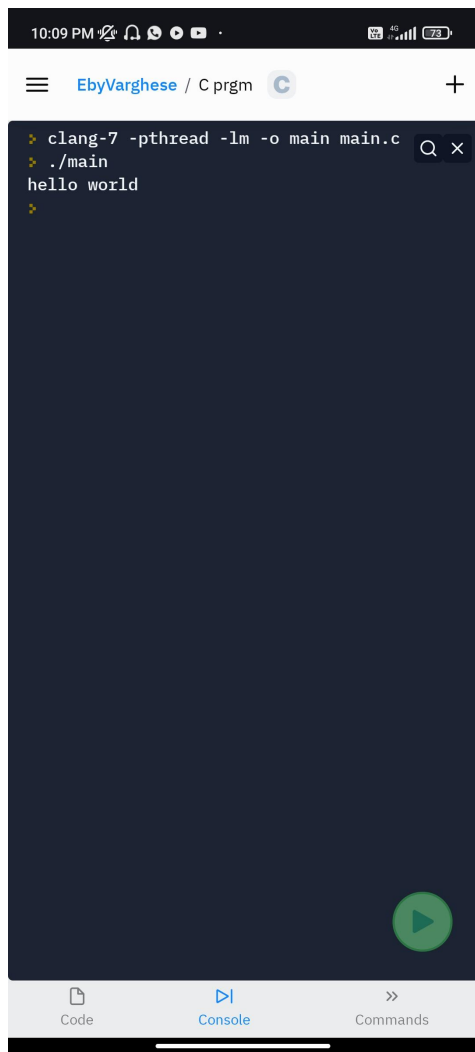


The screenshot shows a mobile application interface for a C programming IDE. At the top, the status bar displays the time as 10:09 PM, signal strength, and battery level at 78%. The app's header bar includes the name 'EbyVarghese', a 'C prgm' label, and a plus icon. Below the header, the file name 'main.c' is shown next to a refresh icon and a 'Files' button. The main area contains a C program with 10 lines of code. The code includes headers for `stdio.h` and `string.h`, defines a `main` function, declares two character arrays `str1` and `str2` of size 100, copies the string 'hello world' from `str1` to `str2` using `strcpy`, prints the contents of `str2` using `printf`, and returns 0. A green play button is located at the bottom right of the code editor. At the very bottom, there is a navigation bar with three tabs: 'Code' (selected), 'Console', and 'Commands'.

```
1 #include<stdio.h>
2 #include<string.h>
3 int main(void)
4 {
5     char str1[100],str2[100];
6     strcpy(str1,"hello world");
7     strcpy(str2,str1);
8     printf("%s\n",str2);
9     return 0;
10 }
```

Output:





- strcmp()

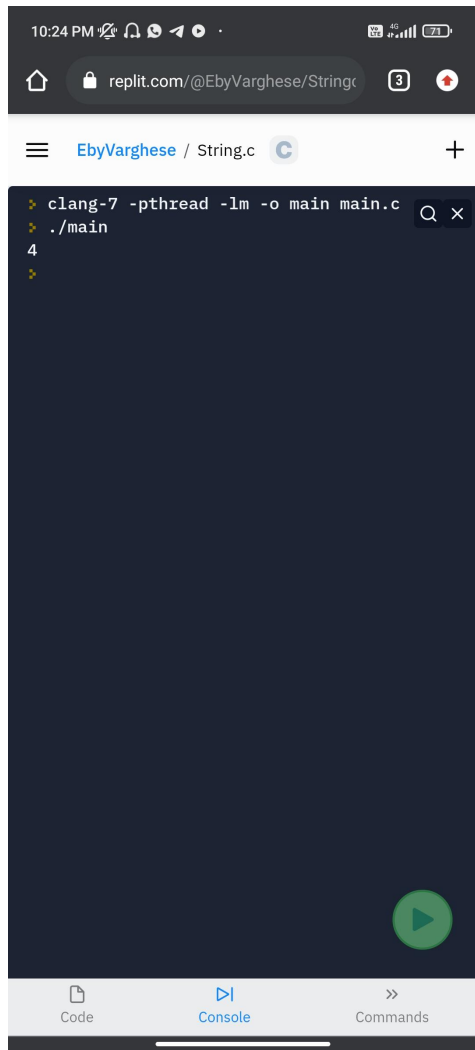
This function is used to compare two strings.

Program:

```
10:24 PM 100% 4G 29%  
replit.com/@EbyVarghese/Stringc  
EbyVarghese / String.c  
main.c Files  
1 #include<stdio.h>  
2 #include<string.h>  
3 int main(void)  
4 {  
5     char str1[]="hello";  
6     char str2[]="hallo";  
7     int len= strcmp(str1,str2);  
8     printf("%d\\n",len);  
9     return 0;  
10 }
```

Code Console Commands

Output:



The screenshot shows a mobile browser interface with the URL `replit.com/@EbyVarghese/Stringc`. The page title is `EbyVarghese / String.c`. The terminal window displays the following commands and output:

```
> clang-7 -pthread -lm -o main main.c
> ./main
4
>
```

At the bottom of the terminal, there is a green play button icon. Below the terminal, there is a navigation bar with three tabs: `Code`, `Console` (which is active), and `Commands`.

- `strlwr()`

This function helps to covert the given input into Lower Case.

Program:

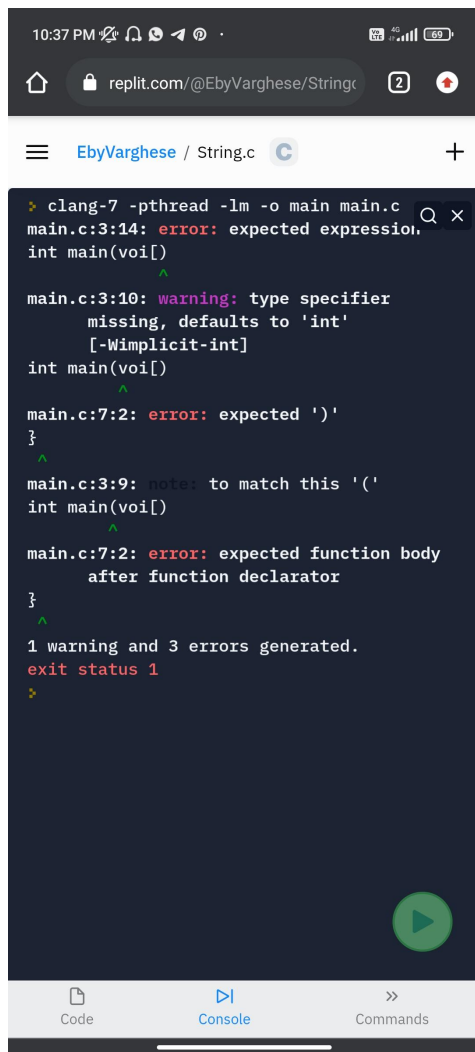


The screenshot shows a mobile application interface for Replit. At the top, the status bar displays the time 10:37 PM, signal strength, and battery level at 70%. The browser address bar shows the URL `replit.com/@EbyVarghese/Stringc`. Below the address bar, the page title is `EbyVarghese / String.c`. The main area displays a C program in a file named `main.c`. The code is as follows:

```
1 #include<stdio.h>
2 #include<string.h>
3 int main(voi[]
4 {
5     chars1[]="HELLO";
6     printf("%s\n",strlwr(s1);|
7 }
```

At the bottom of the screen, there is a navigation bar with three tabs: `Code` (selected), `Console`, and `Commands`. A green play button icon is located in the bottom right corner of the code editor area.

Output:



The screenshot shows a mobile browser interface with a Replit terminal. The terminal output displays the compilation of a C program using clang-7. The code being compiled is a function named `main` that takes a `void` array as an argument. The output shows three errors and one warning. The first error is at line 14, column 14, stating "error: expected expression,". The second error is at line 7, column 2, stating "error: expected ')",". The third error is at line 7, column 2, stating "error: expected function body after function declarator". The warning is at line 10, column 10, stating "warning: type specifier missing, defaults to 'int' [-Wimplicit-int]". The terminal also shows "1 warning and 3 errors generated." and "exit status 1". The bottom of the screen has a navigation bar with "Code", "Console", and "Commands" tabs. A green play button is visible in the bottom right corner of the terminal area.

```
> clang-7 -pthread -lm -o main main.c
main.c:3:14: error: expected expression,
int main(voi[]
      ^
main.c:3:10: warning: type specifier
      missing, defaults to 'int'
      [-Wimplicit-int]
int main(voi[]
      ^
main.c:7:2: error: expected '),'
}
      ^
main.c:3:9: note: to match this '('
int main(voi[]
      ^
main.c:7:2: error: expected function body
      after function declarator
}
      ^
1 warning and 3 errors generated.
exit status 1
>
```

- `strupr()`

This function is used to covert the given input into upper case.

Program:

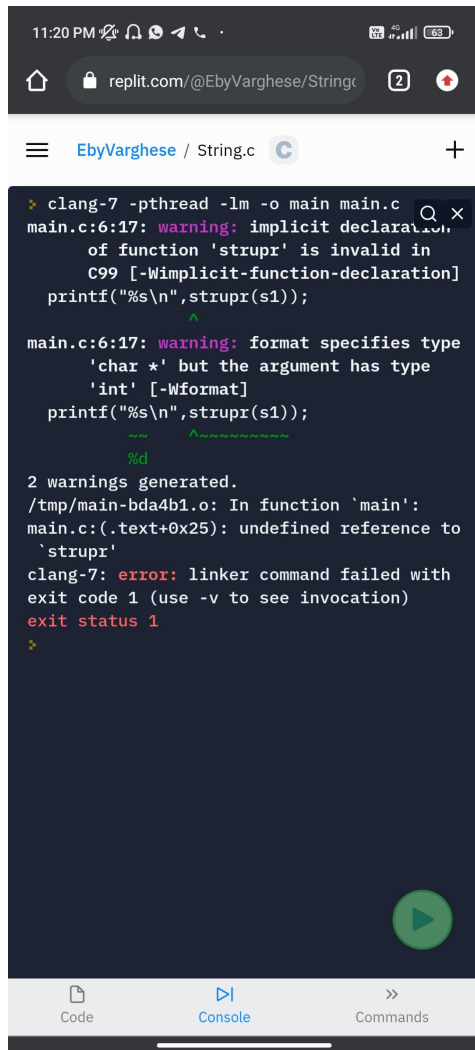


The screenshot shows a mobile application interface for Replit. At the top, the status bar displays the time 11:20 PM, signal strength, and battery level at 63%. The address bar shows the URL `replit.com/@EbyVarghese/Stringc`. Below the address bar, the breadcrumb navigation shows `EbyVarghese / String.c`. The main area displays a C program in a file named `main.c`. The code is as follows:

```
1 #include<stdio.h>
2 #include<string.h>
3 int main(void)
4 {
5     char s1[]="hello";
6     printf("%s\n",strupr(s1));
7 }
```

At the bottom of the screen, there is a navigation bar with three tabs: `Code` (selected), `Console`, and `Commands`. A green play button icon is located in the bottom right corner of the code editor area.

Output:



The screenshot shows a mobile browser interface with the URL `replit.com/@EbyVarghese/Stringc`. The page title is `EbyVarghese / String.c`. The terminal output shows the following:

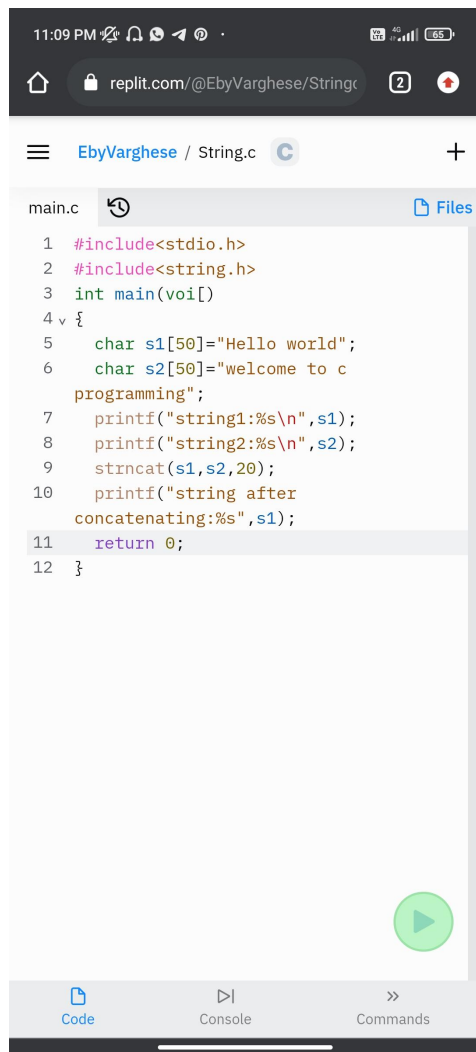
```
> clang-7 -pthread -lm -o main main.c
main.c:6:17: warning: implicit declaration of function 'strupr' is invalid in C99 [-Wimplicit-function-declaration]
printf("%s\n",strupr(s1));
               ^
main.c:6:17: warning: format specifies type 'char *' but the argument has type 'int' [-Wformat]
printf("%s\n",strupr(s1));
               ^~~~~~
               %d
2 warnings generated.
/tmp/main-bda4b1.o: In function 'main':
main.c:(.text+0x25): undefined reference to `strupr'
clang-7: error: linker command failed with exit code 1 (use -v to see invocation)
exit status 1
>
```

At the bottom of the terminal, there is a green play button icon. Below the terminal, there are three tabs: `Code`, `Console` (which is selected), and `Commands`.

- `strncat()`

This function is used to concatenate `n` characters of second string to the first string.

Program:



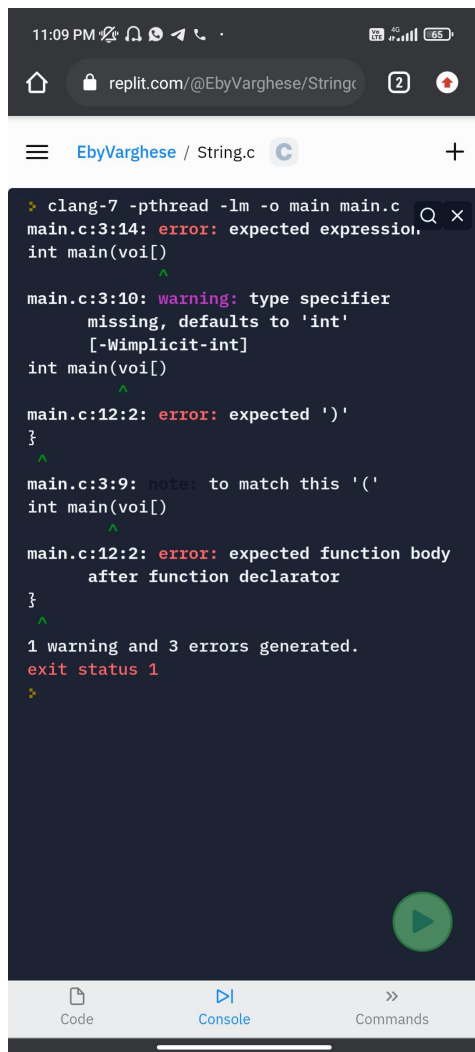
The screenshot shows a mobile browser interface with the URL `replit.com/@EbyVarghese/Stringc`. The page title is `EbyVarghese / String.c`. The code editor displays a C program named `main.c` with the following content:

```
1 #include<stdio.h>
2 #include<string.h>
3 int main(voi[]
4 {
5     char s1[50]="Hello world";
6     char s2[50]="welcome to c
programming";
7     printf("string1:%s\n",s1);
8     printf("string2:%s\n",s2);
9     strncat(s1,s2,20);
10    printf("string after
concatenating:%s",s1);
11    return 0;
12 }
```

At the bottom of the editor, there is a green play button icon. Below the editor, there are three tabs: `Code`, `Console`, and `Commands`.

Output:





The screenshot shows a mobile browser interface with the URL `replit.com/@EbyVarghese/String.c`. The terminal displays the following output:

```
> clang-7 -pthread -lm -o main main.c
main.c:3:14: error: expected expression,
int main(voi[]
      ^
main.c:3:10: warning: type specifier
      missing, defaults to 'int'
      [-Wimplicit-int]
int main(voi[]
      ^
main.c:12:2: error: expected ')'
}
      ^
main.c:3:9: note: to match this '('
int main(voi[]
      ^
main.c:12:2: error: expected function body
      after function declarator
}
      ^
1 warning and 3 errors generated.
exit status 1
>
```

At the bottom of the terminal, there are three tabs: "Code", "Console" (which is active), and "Commands". A green play button icon is visible in the bottom right corner of the terminal area.

- `strncpy()`

This function is used to get copies of given number of characters to one string to another.

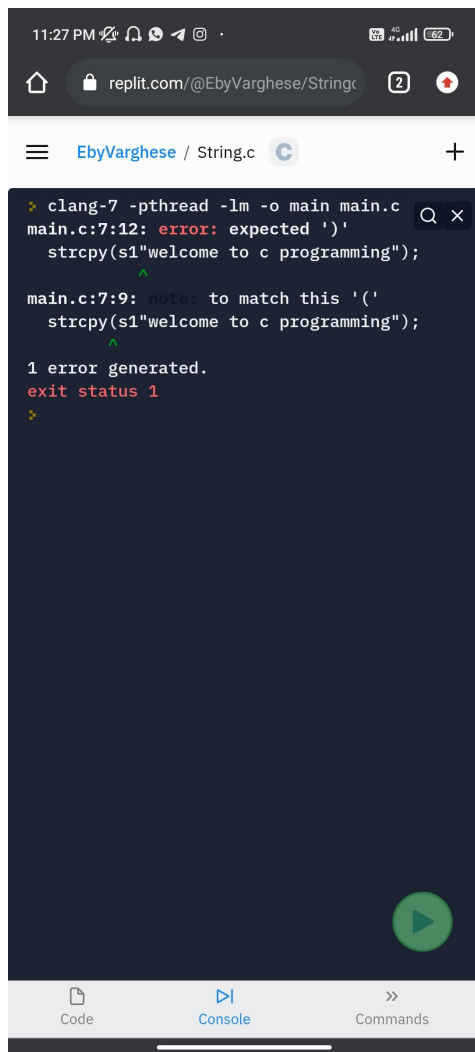
Program:

The screenshot shows a mobile application interface for Replit. At the top, the status bar displays the time 11:26 PM, signal strength, and battery level at 62%. The browser address bar shows the URL `replit.com/@EbyVarghese/Stringc`. Below the address bar, the page title is `EbyVarghese / String.c`. The main content area displays a C program in a file named `main.c`. The code is as follows:

```
1  #include<stdio.h>
2  #include<string.h>
3  int main(void)
4  {
5      char s1[50];
6      char s2[50];
7      strcpy(s1,"welcome to c programming");
8      strncpy(s2,s1,13);
9      printf("final copied string is
10             %s",s2);
11      return 0;
12  }
```

At the bottom of the screen, there is a navigation bar with three tabs: `Code`, `Console`, and `Commands`. A green play button icon is located in the bottom right corner of the code editor area.

Output:



The screenshot shows a mobile browser interface with the URL `replit.com/@EbyVarghese/String.c`. The page title is `EbyVarghese / String.c`. The terminal output shows the compilation command `clang-7 -pthread -lm -o main main.c` and the source code for `main.c`. The code contains two `strcpy` calls. The first call on line 12 has a syntax error: `strcpy(s1"welcome to c programming");`, where the opening quote is not closed. The compiler message indicates: `main.c:7:12: error: expected ')`. The second call on line 9 is correct: `strcpy(s1"welcome to c programming");`. The terminal also shows `1 error generated.` and `exit status 1`. At the bottom, there are tabs for `Code`, `Console` (which is active), and `Commands`.

```
> clang-7 -pthread -lm -o main main.c
main.c:7:12: error: expected ')'
  strcpy(s1"welcome to c programming");
          ^
main.c:7:9: note: to match this '('
  strcpy(s1"welcome to c programming");
          ^
1 error generated.
exit status 1
>
```

- `strstr()`

The `strstr()` function returns pointer to the first occurrence of the matched string in the given string. It is used to return substring from first match till the last character.

Program:



The screenshot shows a mobile browser interface with the URL `replit.com/@EbyVarghese/C-prgm`. The page title is `EbyVarghese / C prgm`. The code editor displays a C program named `main.c` with the following content:

```
1 #include<stdio.h>
2 #include<string.h>
3 int main(void)
4 {
5     char s1[]="welcome to c
programming";
6     char s2[]="to";
7     char*n;
8     n=strstr(s1,s2);
9     if(n)
10 {
11     printf("string gound\n");
12     printf("first occurence of '%s' in
'%s' is '%s'",s2,s1,n);
13 }
14 else
15     printf("string not found\n");
16     return 0;
17 }
```

At the bottom of the editor, there is a green play button icon. Below the editor, there are three tabs: `Code`, `Console`, and `Commands`.

Output:

A screenshot of a mobile browser displaying a Replit terminal. The terminal window has a dark blue background and shows the following commands and output: 

```
> clang-7 -pthread -lm -o main main.c
> ./main
string gound
first occurence of 'to' in 'welcome to c programming' is 'to c programming'>
```

 The browser's address bar shows 'replit.com/@EbyVarghese/C-prgm'. At the bottom of the terminal window, there are three tabs: 'Code', 'Console' (which is active), and 'Commands'. A green play button icon is visible in the bottom right corner of the terminal area.

Syntax of the above mentioned  
String Handling Functions.

1.Strcpy()  
strcpy(string 1,string 2)

2.Strncpy()  
strncpy(string 1,string 2,n)

3.Strlen()  
strlen(string 1)

4.Strcat()  
strcat(string1,string2)

5.Strncat()  
strncat(string1,string2,n)

6.Strcmp()  
strcmp(string1,string2)

7.Strrev()  
strrev(string1)

8.Strupr()  
strupr(string1)

9.Strlwr()  
strlwr(string1)

10.Strstr()  
strstr(string1,string2)

\*\*\*\*\*