

EMERTXE TRAINING PROJECT DOCUMENTATION FRAMEWORK  
**REQUIREMENTS & DESIGN DOCUMENT**

**Module – Advanced C**

**Source 2 HTML**



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# 1 Abstract

The purpose of Source2html project is to display source code in Browser. Source2html program shall parse a source file and generate equivalent HTML file.

Browser takes HTML file as input and renders it in Browser window to display source code

Reserved key words, preprocessor directives, numerical constants, strings, ASCII characters etc must be displayed in pre-defined color

## 2 Requirements

- Application should accept a C source file
- There should a provision to pass an output file name
- An option to add the line numbers to the output file

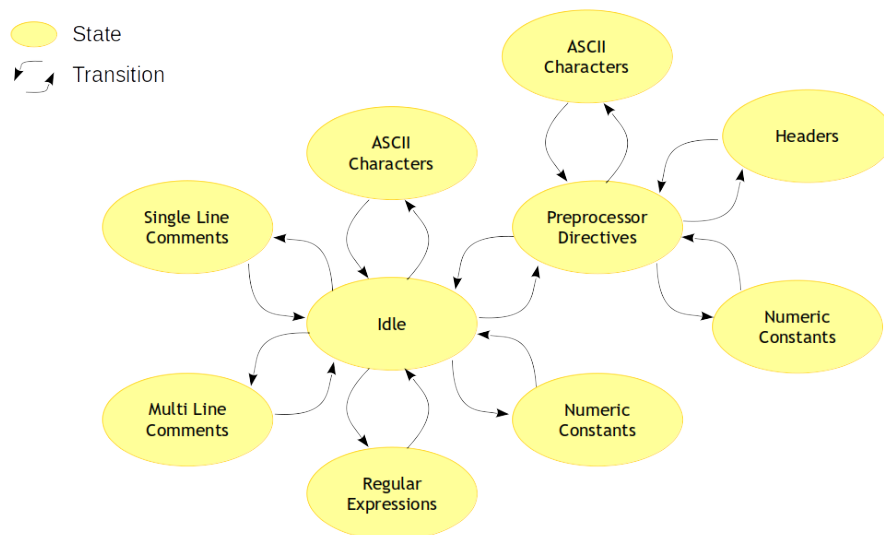
### **3 Prerequisites**

- Basic knowledge of HTML
- File I/O
- String Handling
- Pointers and Structures

## 4 Design

Design a parser engine using state-event approach

- Stay in idle state at program start-up
  - Identify beginning of words, comments, preprocessor, constants etc and move to specific state
  - Store the characters in buffer while staying in the specific state
  - Identify end of words, comments, preprocessor, numeric constants and return an event
  - Leave the specific state and move back to Idle state



## 5 Sample Output

```
user@emertxe] ./source_to_ntml
Usage: ./source_to_ntml <src_file.c> <output.html> <-n>
user@emertxe]
```

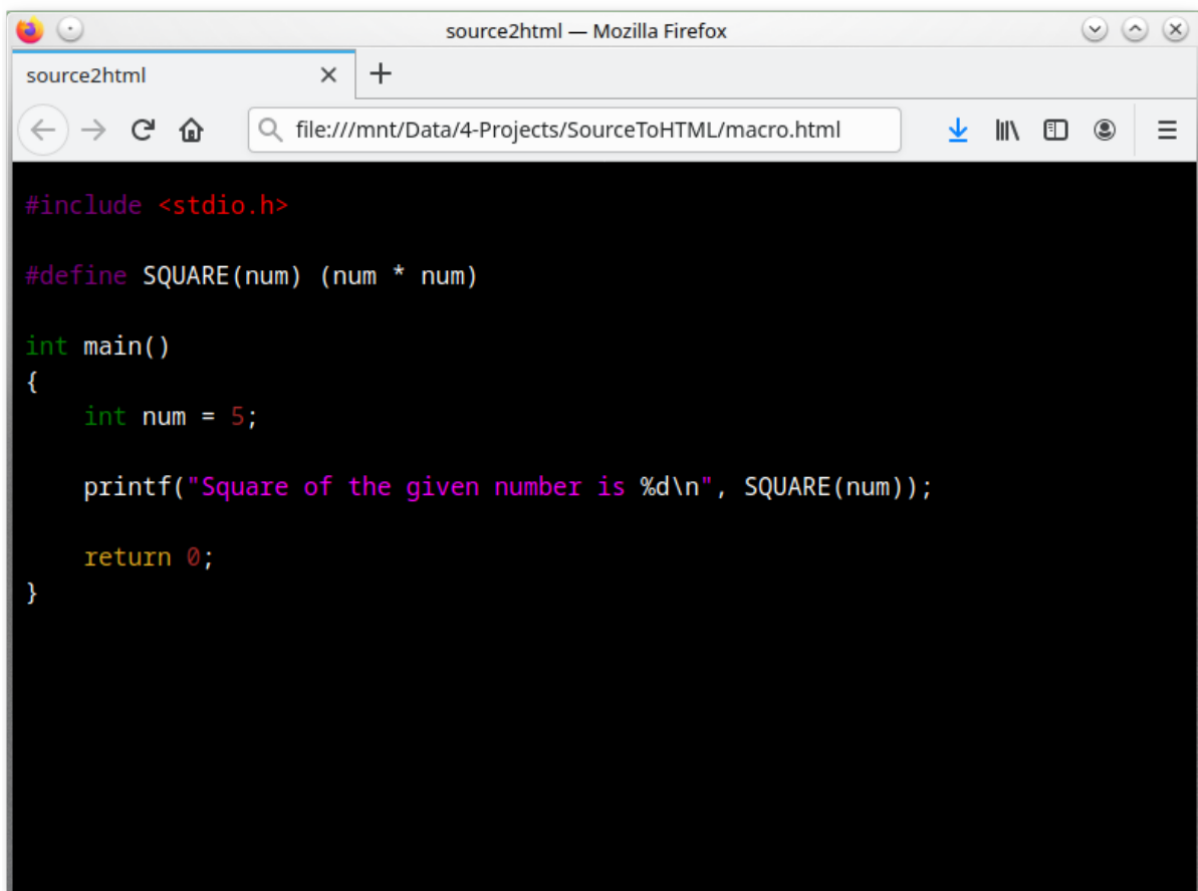
Fig 5 1: Usage

```
user@emertxe] ./source_to_ntml macro.c macro.html
Conversion to HTML file done successfully
user@emertxe]
```

Fig 5 2: Generating a HTML file from C Source Code

```
user@emertxe] firefox macro.html &
[1] 36279
user@emertxe]
```

Fig 5 3: Open the HTML file using Firefox Browser



```
#include <stdio.h>

#define SQUARE(num) (num * num)

int main()
{
    int num = 5;

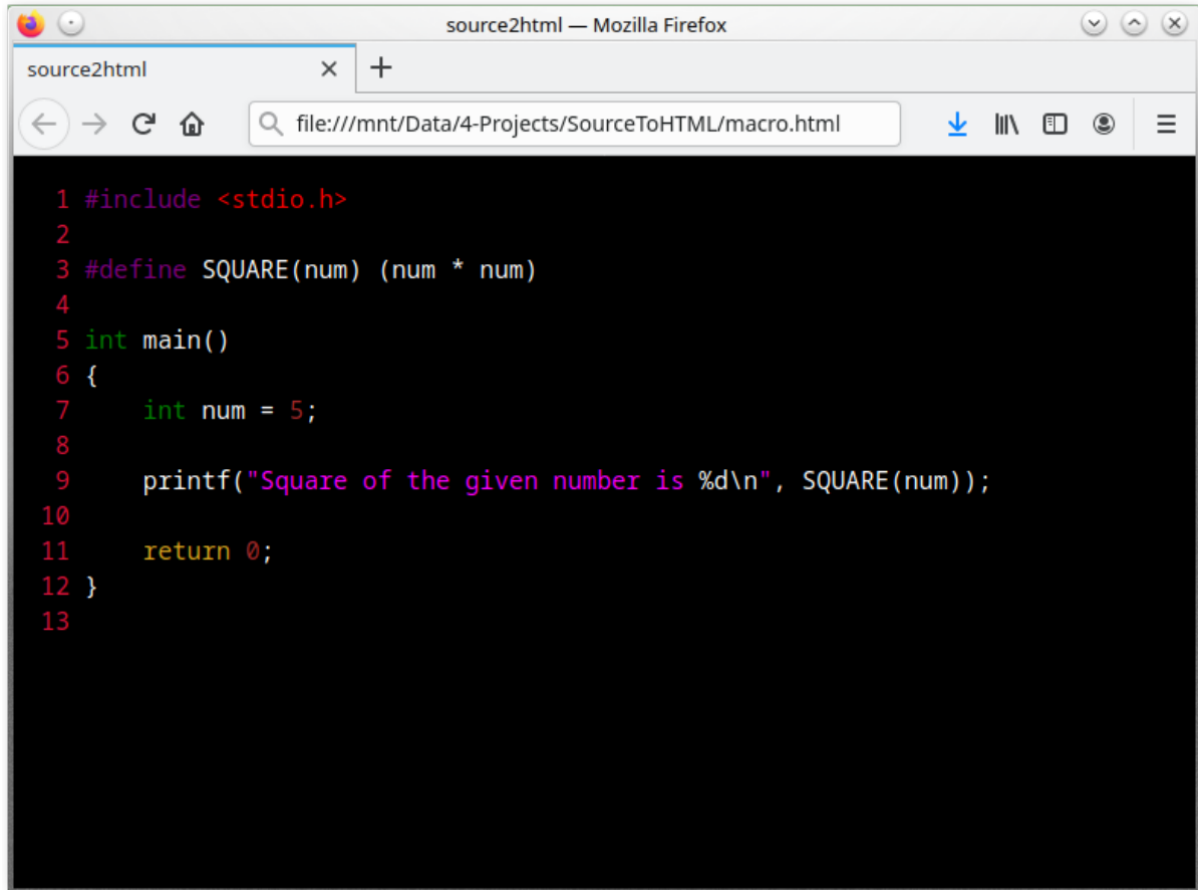
    printf("Square of the given number is %d\n", SQUARE(num));

    return 0;
}
```

Fig 5 4: Output

```
user@emertxe] ./source_to_html macro.c macro.html -n  
Conversion to HTML file done successfully  
user@emertxe]
```

Fig 5 5: Generating a HTML file from C Source Code with line numbers enabled



The screenshot shows a Mozilla Firefox browser window titled "source2html — Mozilla Firefox". The address bar contains the file path "file:///mnt/Data/4-Projects/SourceToHTML/macro.html". The main content area displays the following C code with line numbers 1 through 13:

```
1 #include <stdio.h>  
2  
3 #define SQUARE(num) (num * num)  
4  
5 int main()  
6 {  
7     int num = 5;  
8  
9     printf("Square of the given number is %d\n", SQUARE(num));  
10  
11     return 0;  
12 }  
13
```

Fig 5 6: Output with line numbers



## **6 Artifacts**

### **6.1 Skeleton Code**

- TBD

### **6.2 References**

- <https://www.w3schools.com/html/>
- <http://html.com/>