



Scrolling Marquee

We will examine the code (listed on the last page) to create a scrolling marquee of text.

We can specify the message as follows ...

```
message = "PUT TEXT HERE"
```

Hence, the string variable "message" starts of looking like this ...

0	1	2	3	4	5	6	7	8	9	10	11	12
P	U	T		T	E	X	T		H	E	R	E

Note that the length of the string is 13 characters (indexed from 0 to 12).

We will add spaces to the beginning of the string. We will add the same amount of spaces as the length of the string. The resulting string will look like this ...

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
													P	U	T		T	E	X	T		H	E	R	E

We will add spaces to the end of the string. We will add the same amount of spaces as the length of the string. The resulting string will look like this ...

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
													P	U	T		T	E	X	T		H	E	R	E														

Scrolling Marquee

To simulate scrolling, only a sub-string of the string (denoted by the yellow highlight) is shown at any given time. The substring start location is then increased by 1 every 250 milliseconds (or whatever value you find appropriate).

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
														P	U	T		T	E	X	T		H	E	R	E													

Solution

```
#include <iostream>
#include <string>
#include <cctype>
#include <windows.h> // for Sleep(milliseconds) functions

using namespace std;

int main()
{
    string message;
    string spaces = "                                     "; // 50 spaces
    string scroll;
    int len;

    // getline(cin, userInput);

    message = "PUT TEXT HERE"; // only for testing
    len = message.length();

    // Add spaces to start and end of userInput string
    // Add the same amount as characters in the userInput string
    scroll = spaces.substr(0, len) + message + spaces.substr(0, len);

    for(int i = 0; i < len * 2; i++)
    {
        cout << scroll.substr(i, len);
        Sleep(250);
        system("CLS");
    }

    return 0;
}
```