



Lab report

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1)

(i) Code: [\(1\)\(i\).cpp](#)

Best case:

```
a
The length of the string is: 1

Process returned 0 (0x0)    execution time : 3.970 s
Press ENTER to continue.
█
```

Worst case:

```
abc def ghi jkl mno pqr
The length of the string is: 23

Process returned 0 (0x0)    execution time : 19.601 s
Press ENTER to continue.
█
```

(ii) code: [\(1\)\(ii\).cpp](#)

Best case:

```
abcdef
Which letter do you want to search: x
Letter not found

Process returned 0 (0x0)    execution time : 12.517 s
Press ENTER to continue.
█
```

Worst case:

```
aaa bbcdef aaaaaaaaaaaaaa ii xyz a
Which letter do you want to search: a
posstions are: 1 2 3 12 13 14 15 16 17 18 19 20 21 22 23 32
Process returned 0 (0x0)    execution time : 26.172 s
Press ENTER to continue.
```

2)

Code : [2.cpp](#)

Best case:

```
bangladesh
The number of words in the sentence is: 1

Process returned 0 (0x0)    execution time : 9.298 s
Press ENTER to continue.
█
```

Worst case:

```
Bangladesh is my motherland. I love my motherland.
The number of words in the sentence is: 8

Process returned 0 (0x0)    execution time : 26.093 s
Press ENTER to continue.
█
```

3)

code: [3.cpp](#) *[note: For multiple line comment, please input an EOF signal at the end of input]*

Best case:

```
//single line comment
Single line comment

Process returned 0 (0x0)    execution time : 7.961 s
Press ENTER to continue.
█
```

worst case:

```
/*
    This is a
    multiple line
    comment
*/
multiple line comment

Process returned 0 (0x0)    execution time : 42.950 s
Press ENTER to continue.
█
```

4)

Code: [4.cpp](#)

Best case:

```
File Edit View Search Terminal Help
%abc
This is not a sentence

Process returned 0 (0x0)   execution time : 7.847 s
Press ENTER to continue.
█
```

worst case:

```
abcd   efgh ijk   lmn   opq rst uvw xyz
This is a sentence

Process returned 0 (0x0)   execution time : 24.504 s
Press ENTER to continue.
█
```

5)

Code: [5.cpp](#)

Best case:

```
This is a sentence.
slash not found

Process returned 0 (0x0)   execution time : 24.910 s
Press ENTER to continue.
█
```

Worst case:

```
//slash // is // everywhere/////
Total slash: 11
positions are: 1 2 9 10 15 16 28 29 30 31 32
Process returned 0 (0x0)   execution time : 91.748 s
Press ENTER to continue.
█
```

6-7)

Code: [6-7.cpp](#) [note: This program takes input from a file named "i.txt". Please create a file first.]

Best case:

```
printf("hello world");
```

keywords----- printf

Special Characters----- ;

Brackets----- ()

Operators-----

Variables and tokens-----

Strings-----"hello world"

Process returned 0 (0x0) execution time : 0.002 s

Press ENTER to continue.



Worst case:

```
#include<stdio.h>
#include<string.h>
int main(void)
{
    int n;
    scanf("%d",&n);
    int arr[n];
    int i;
    for(i=0;i<n;i++){
        scanf("%d",&arr[i]);
    }
    printf("The array is:\n");
    for(i=0;i<n;i++){
        printf("%d ",arr[i]);
    }
    return 0;
}
```

keywords----- #include for int main printf return scanf stdio.h string.h void

Special Characters----- %d , ;

Brackets----- () { }

Operators----- & + < = >

Variables and tokens----- 0 arr[i] arr[n] i n

Strings----- "%d" "%d" "The array is:\n" "%d "

Process returned 0 (0x0) execution time : 0.006 s
Press ENTER to continue

8)

Code : [8.cpp](#)

Best case:

```
Sample input: x=1
which letter do you want to change: 1
which letter do you want to put: 2
Sample Output:
    x=1
or, x=+2    [After replacing the charecter]
or, x=+2.000000

Process returned 0 (0x0)    execution time : 15.217 s
Press ENTER to continue.
█
```

worst case:

```
Sample input: x=a+b+c/5+6+1+2+3+e*5*6
which letter do you want to change: 6
which letter do you want to put: 1
Sample Output:
    x=a+b+c/5+6+1+2+3+e*5*6
or, x=+c/5+e*5*1+a+b+1+1+2+3    [After replacing the charecter]
or, x=+c/5+e*5*1+a+b+7.000000

Process returned 0 (0x0)    execution time : 10.836 s
Press ENTER to continue.
```