

# Compiler Design Lab

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Course Code: CSE 332

# Algorithm

- declare a 2D array "words[50][50]"
- declare three integers as row = 0, col = 0, line\_count = 0
- for i = 0 to n-1 where n = size of the string
  - ch = str[i]
  - if ch is alpha or numeric
    - while ch is alpha or numeric
      - words[row][col] = char
      - col = col + 1
      - i = i + 1
      - ch = ch[i]
    - add null character to words[row][col]
    - row = row + 1
    - col = 0
  - else
    - if ch is newline
      - line\_count ++
    - i = i + 1

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 0  
ch = 'C'  
row = 0  
col = 0  
words[row][col] = ch  
words[0][0] = 'C'

C [0][0]	[0][1]	[0][2]	[0][3]	[0][4]
[1][0]	[1][1]	[1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 1  
ch = 'S'  
row = 0  
col = 1  
words[row][col] = ch  
words[0][1] = 'S'

C [0][0]	S [0][1]	[0][2]	[0][3]	[0][4]
[1][0]	[1][1]	[1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 2  
ch = 'E'  
row = 0  
col = 2  
words[row][col] = ch  
words[0][2] = 'E'

C [0][0]	S [0][1]	E [0][2]	[0][3]	[0][4]
[1][0]	[1][1]	[1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 3  
ch = '\_'  
row = 1  
col = 0

C [0][0]	S [0][1]	E [0][2]		
[1][0]	[1][1]	[1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 4  
ch = '#'  
row = 1  
col = 0

C [0][0]	S [0][1]	E [0][2]	[0][3]	[0][4]
[1][0]	[1][1]	[1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 5  
ch = '3'  
row = 1  
col = 0  
words[row][col] = ch  
words[1][0] = '3'

C [0][0]	S [0][1]	E [0][2]	[0][3]	[0][4]
3 [1][0]	[1][1]	[1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words



C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 6  
ch = '3'  
row = 1  
col = 1  
words[row][col] = ch  
words[1][1] = '3'

C [0][0]	S [0][1]	E [0][2]	[0][3]	[0][4]
3 [1][0]	3 [1][1]	[1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 7  
ch = '2'  
row = 1  
col = 2  
words[row][col] = ch  
words[1][2] = '2'

C [0][0]	S [0][1]	E [0][2]	[0][3]	[0][4]
3 [1][0]	3 [1][1]	2 [1][2]	[1][3]	[1][4]
[2][0]	[2][1]	[2][2]	[2][3]	[2][4]

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 8  
ch = '-'  
row = 2  
col = 0

C [0][0]	S [0][1]	E [0][2]		
3 [1][0]	3 [1][1]	2 [1][2]		

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 9  
ch = 'L'  
row = 2  
col = 0  
words[row][col] = ch  
words[2][0] = 'L'

C [0][0]	S [0][1]	E [0][2]		
3 [1][0]	3 [1][1]	2 [1][2]		
L [2][0]				

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 10  
ch = 'A'  
row = 2  
col = 1  
words[row][col] = ch  
words[2][1] = 'A'

C [0][0]	S [0][1]	E [0][2]		
3 [1][0]	3 [1][1]	2 [1][2]		
L [2][0]	A [2][1]			

words

C	S	E	_	#	3	3	2	-	L	A	B	\0
0	1	2	3	4	5	6	7	8	9	10	11	12

i = 11  
ch = 'B'  
row = 2  
col = 2  
words[row][col] = ch  
words[2][2] = 'B'

C [0][0]	S [0][1]	E [0][2]	[0][3]	[0][4]
3 [1][0]	3 [1][1]	2 [1][2]	[1][3]	[1][4]
L [2][0]	A [2][1]	B [2][2]	[2][3]	[2][4]

words