

Universidade Federal de Alagoas  
Instituto de Computação  
*Ciência da Computação*

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Nova - Lexer v2

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# Sumário

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# 1 Outputs

## 1.1 Hello World

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```
1 [(Sequence: void, Token Category: 29, Position: (0, 0))
2  , (Sequence: main, Token Category: 31, Position: (0, 4))
3  , (Sequence: (, Token Category: 23, Position: (0, 8))
4  , (Sequence: ), Token Category: 24, Position: (0, 9))
5  , (Sequence: {, Token Category: 25, Position: (0, 10))
6  , (Sequence: printOut, Token Category: 30, Position: (1, 0))
7  , (Sequence: (, Token Category: 23, Position: (1, 8))
8  , (Sequence: "AloMundo!", Token Category: 4, Position: (1, 9))
9  , (Sequence: ), Token Category: 24, Position: (1, 20))
10 , (Sequence: ;; Token Category: 22, Position: (1, 21))
11 , (Sequence: }, Token Category: 26, Position: (2, 0))
12 , (Sequence: ;; Token Category: 22, Position: (2, 1))
13 ]
```

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## 1.2 Fibonacci

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```
1 [(Sequence: int, Token Category: 20, Position: (0, 0))
2  , (Sequence: fibonacci, Token Category: 1, Position: (0, 3))
3  , (Sequence: (, Token Category: 23, Position: (0, 12))
4  , (Sequence: int, Token Category: 20, Position: (0, 13))
5  , (Sequence: n, Token Category: 1, Position: (0, 16))
6  , (Sequence: ), Token Category: 24, Position: (0, 17))
7  , (Sequence: {, Token Category: 25, Position: (0, 18))
8  , (Sequence: int, Token Category: 20, Position: (1, 0))
9  , (Sequence: f1, Token Category: 1, Position: (1, 3))
10 , (Sequence: =, Token Category: 5, Position: (1, 5))
11 , (Sequence: 0, Token Category: 3, Position: (1, 6))
12 , (Sequence: ;; Token Category: 22, Position: (1, 7))
13 , (Sequence: int, Token Category: 20, Position: (2, 0))
14 , (Sequence: f2, Token Category: 1, Position: (2, 3))
15 , (Sequence: =, Token Category: 5, Position: (2, 5))
16 , (Sequence: 1, Token Category: 3, Position: (2, 6))
17 , (Sequence: ;; Token Category: 22, Position: (2, 7))
18 , (Sequence: int, Token Category: 20, Position: (3, 0))
19 , (Sequence: fi, Token Category: 1, Position: (3, 3))
20 , (Sequence: =, Token Category: 5, Position: (3, 5))
```

21 , (Sequence: 0, Token Category: 3, Position: (3, 6))  
 22 , (Sequence: ;, Token Category: 22, Position: (3, 7))  
 23 , (Sequence: printOut, Token Category: 30, Position: (5, 0))  
 24 , (Sequence: (, Token Category: 23, Position: (5, 8))  
 25 , (Sequence: 0, Token Category: 3, Position: (5, 9))  
 26 , (Sequence: ), Token Category: 24, Position: (5, 10))  
 27 , (Sequence: ;, Token Category: 22, Position: (5, 11))  
 28 , (Sequence: printOut, Token Category: 30, Position: (6, 0))  
 29 , (Sequence: (, Token Category: 23, Position: (6, 8))  
 30 , (Sequence: "" , Token Category: 4, Position: (6, 9))  
 31 , (Sequence: ,, Token Category: 22, Position: (6, 11))  
 32 , (Sequence: "" , Token Category: 4, Position: (6, 12))  
 33 , (Sequence: ), Token Category: 24, Position: (6, 14))  
 34 , (Sequence: ;, Token Category: 22, Position: (6, 15))  
 35 , (Sequence: printOut, Token Category: 30, Position: (7, 0))  
 36 , (Sequence: (, Token Category: 23, Position: (7, 8))  
 37 , (Sequence: 1, Token Category: 3, Position: (7, 9))  
 38 , (Sequence: ), Token Category: 24, Position: (7, 10))  
 39 , (Sequence: ;, Token Category: 22, Position: (7, 11))  
 40 , (Sequence: if, Token Category: 15, Position: (9, 0))  
 41 , (Sequence: (, Token Category: 23, Position: (9, 2))  
 42 , (Sequence: n, Token Category: 1, Position: (9, 3))  
 43 , (Sequence: =, Token Category: 5, Position: (9, 4))  
 44 , (Sequence: =, Token Category: 5, Position: (9, 5))  
 45 , (Sequence: 0, Token Category: 3, Position: (9, 6))  
 46 , (Sequence: or, Token Category: 13, Position: (9, 7))  
 47 , (Sequence: n, Token Category: 1, Position: (9, 9))  
 48 , (Sequence: =, Token Category: 5, Position: (9, 10))  
 49 , (Sequence: =, Token Category: 5, Position: (9, 11))  
 50 , (Sequence: 1, Token Category: 3, Position: (9, 12))  
 51 , (Sequence: ), Token Category: 24, Position: (9, 13))  
 52 , (Sequence: {, Token Category: 25, Position: (9, 14))  
 53 , (Sequence: shoot, Token Category: 17, Position: (10, 0))  
 54 , (Sequence: 1, Token Category: 3, Position: (10, 5))  
 55 , (Sequence: ;, Token Category: 22, Position: (10, 6))  
 56 , (Sequence: }, Token Category: 26, Position: (11, 0))  
 57 , (Sequence: ;, Token Category: 22, Position: (11, 1))  
 58 , (Sequence: while, Token Category: 18, Position: (13, 0))  
 59 , (Sequence: (, Token Category: 23, Position: (13, 5))  
 60 , (Sequence: fi, Token Category: 1, Position: (13, 6))  
 61 , (Sequence: <, Token Category: 6, Position: (13, 8))

62 , (Sequence: n, Token Category: 1, Position: (13, 9))  
63 , (Sequence: ), Token Category: 24, Position: (13, 10))  
64 , (Sequence: {, Token Category: 25, Position: (13, 11))  
65 , (Sequence: fi, Token Category: 1, Position: (14, 0))  
66 , (Sequence: =, Token Category: 5, Position: (14, 2))  
67 , (Sequence: f1, Token Category: 1, Position: (14, 3))  
68 , (Sequence: +, Token Category: 8, Position: (14, 5))  
69 , (Sequence: f2, Token Category: 1, Position: (14, 6))  
70 , (Sequence: ;, Token Category: 22, Position: (14, 8))  
71 , (Sequence: f1, Token Category: 1, Position: (15, 0))  
72 , (Sequence: =, Token Category: 5, Position: (15, 2))  
73 , (Sequence: f2, Token Category: 1, Position: (15, 3))  
74 , (Sequence: ;, Token Category: 22, Position: (15, 5))  
75 , (Sequence: f2, Token Category: 1, Position: (16, 0))  
76 , (Sequence: =, Token Category: 5, Position: (16, 2))  
77 , (Sequence: fi, Token Category: 1, Position: (16, 3))  
78 , (Sequence: ;, Token Category: 22, Position: (16, 5))  
79 , (Sequence: printOut, Token Category: 30, Position: (17, 0))  
80 , (Sequence: (, Token Category: 23, Position: (17, 8))  
81 , (Sequence: """ , Token Category: 4, Position: (17, 9))  
82 , (Sequence: ,, Token Category: 22, Position: (17, 11))  
83 , (Sequence: """ , Token Category: 4, Position: (17, 12))  
84 , (Sequence: ), Token Category: 24, Position: (17, 14))  
85 , (Sequence: ;, Token Category: 22, Position: (17, 15))  
86 , (Sequence: printOut, Token Category: 30, Position: (18, 0))  
87 , (Sequence: (, Token Category: 23, Position: (18, 8))  
88 , (Sequence: "fi", Token Category: 4, Position: (18, 9))  
89 , (Sequence: ), Token Category: 24, Position: (18, 13))  
90 , (Sequence: ;, Token Category: 22, Position: (18, 14))  
91 , (Sequence: }, Token Category: 26, Position: (19, 0))  
92 , (Sequence: ;, Token Category: 22, Position: (19, 1))  
93 , (Sequence: shoot, Token Category: 17, Position: (21, 0))  
94 , (Sequence: fi, Token Category: 1, Position: (21, 5))  
95 , (Sequence: ;, Token Category: 22, Position: (21, 7))  
96 , (Sequence: }, Token Category: 26, Position: (22, 0))  
97 , (Sequence: ;, Token Category: 22, Position: (22, 1))  
98 , (Sequence: **void**, Token Category: 29, Position: (24, 0))  
99 , (Sequence: main, Token Category: 31, Position: (24, 4))  
100 , (Sequence: (, Token Category: 23, Position: (24, 8))  
101 , (Sequence: ), Token Category: 24, Position: (24, 9))  
102 , (Sequence: {, Token Category: 25, Position: (24, 10))

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103 , (Sequence: int, Token Category: 20, Position: (25, 0))
104 , (Sequence: n, Token Category: 1, Position: (25, 3))
105 , (Sequence: ;, Token Category: 22, Position: (25, 4))
106 , (Sequence: readIn, Token Category: 30, Position: (26, 0))
107 , (Sequence: (, Token Category: 23, Position: (26, 6))
108 , (Sequence: n, Token Category: 1, Position: (26, 7))
109 , (Sequence: ), Token Category: 24, Position: (26, 8))
110 , (Sequence: ;, Token Category: 22, Position: (26, 9))
111 , (Sequence: int, Token Category: 20, Position: (28, 0))
112 , (Sequence: fib, Token Category: 1, Position: (28, 3))
113 , (Sequence: =, Token Category: 5, Position: (28, 6))
114 , (Sequence: fibonacci, Token Category: 1, Position: (28, 7))
115 , (Sequence: (, Token Category: 23, Position: (28, 16))
116 , (Sequence: n, Token Category: 1, Position: (28, 17))
117 , (Sequence: ), Token Category: 24, Position: (28, 18))
118 , (Sequence: ;, Token Category: 22, Position: (28, 19))
119 , (Sequence: #dosomethingwithfib, Token Category: 10, Position: (29, 0))
120 , (Sequence: }, Token Category: 26, Position: (30, 0))
121 , (Sequence: ;, Token Category: 22, Position: (30, 1))
122 ]

```

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### 1.3 ShellSort

```

1  [(Sequence: void, Token Category: 29, Position: (0, 0))
2  , (Sequence: main, Token Category: 31, Position: (0, 4))
3  , (Sequence: (, Token Category: 23, Position: (0, 8))
4  , (Sequence: ), Token Category: 24, Position: (0, 9))
5  , (Sequence: {, Token Category: 25, Position: (0, 10))
6  , (Sequence: int, Token Category: 20, Position: (1, 0))
7  , (Sequence: size, Token Category: 1, Position: (1, 3))
8  , (Sequence: ;, Token Category: 22, Position: (1, 7))
9  , (Sequence: readIn, Token Category: 30, Position: (2, 0))
10 , (Sequence: (, Token Category: 23, Position: (2, 6))
11 , (Sequence: size, Token Category: 1, Position: (2, 7))
12 , (Sequence: ), Token Category: 24, Position: (2, 11))
13 , (Sequence: ;, Token Category: 22, Position: (2, 12))
14 , (Sequence: int, Token Category: 20, Position: (4, 0))
15 , (Sequence: vet, Token Category: 1, Position: (4, 3))
16 , (Sequence: ::, Token Category: 11, Position: (4, 6))
17 , (Sequence: size, Token Category: 1, Position: (4, 8))

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18 , (Sequence: ;, Token Category: 22, Position: (4, 12))  
 19 , (Sequence: **for**, Token Category: 19, Position: (5, 0))  
 20 , (Sequence: (, Token Category: 23, Position: (5, 3))  
 21 , (Sequence: **int**, Token Category: 20, Position: (5, 4))  
 22 , (Sequence: i, Token Category: 1, Position: (5, 7))  
 23 , (Sequence: =, Token Category: 5, Position: (5, 8))  
 24 , (Sequence: 0, Token Category: 3, Position: (5, 9))  
 25 , (Sequence: ;, Token Category: 22, Position: (5, 10))  
 26 , (Sequence: i, Token Category: 1, Position: (5, 11))  
 27 , (Sequence: <, Token Category: 6, Position: (5, 12))  
 28 , (Sequence: size, Token Category: 1, Position: (5, 13))  
 29 , (Sequence: ;, Token Category: 22, Position: (5, 17))  
 30 , (Sequence: i, Token Category: 1, Position: (5, 18))  
 31 , (Sequence: =, Token Category: 5, Position: (5, 19))  
 32 , (Sequence: i, Token Category: 1, Position: (5, 20))  
 33 , (Sequence: +, Token Category: 8, Position: (5, 21))  
 34 , (Sequence: 1, Token Category: 3, Position: (5, 22))  
 35 , (Sequence: ), Token Category: 24, Position: (5, 23))  
 36 , (Sequence: {, Token Category: 25, Position: (5, 24))  
 37 , (Sequence: **int**, Token Category: 20, Position: (6, 0))  
 38 , (Sequence: x, Token Category: 1, Position: (6, 3))  
 39 , (Sequence: ;, Token Category: 22, Position: (6, 4))  
 40 , (Sequence: readIn, Token Category: 30, Position: (7, 0))  
 41 , (Sequence: (, Token Category: 23, Position: (7, 6))  
 42 , (Sequence: x, Token Category: 1, Position: (7, 7))  
 43 , (Sequence: ), Token Category: 24, Position: (7, 8))  
 44 , (Sequence: ;, Token Category: 22, Position: (7, 9))  
 45 , (Sequence: add, Token Category: 1, Position: (8, 0))  
 46 , (Sequence: (, Token Category: 23, Position: (8, 3))  
 47 , (Sequence: vet, Token Category: 1, Position: (8, 4))  
 48 , (Sequence: ,, Token Category: 22, Position: (8, 7))  
 49 , (Sequence: x, Token Category: 1, Position: (8, 8))  
 50 , (Sequence: ), Token Category: 24, Position: (8, 9))  
 51 , (Sequence: ;, Token Category: 22, Position: (8, 10))  
 52 , (Sequence: }, Token Category: 26, Position: (9, 0))  
 53 , (Sequence: ;, Token Category: 22, Position: (9, 1))  
 54 , (Sequence: **int**, Token Category: 20, Position: (11, 0))  
 55 , (Sequence: value, Token Category: 1, Position: (11, 3))  
 56 , (Sequence: ;, Token Category: 22, Position: (11, 8))  
 57 , (Sequence: **int**, Token Category: 20, Position: (12, 0))  
 58 , (Sequence: gap, Token Category: 1, Position: (12, 3))

59 , (Sequence: =, Token Category: 5, Position: (12, 6))  
 60 , (Sequence: 1, Token Category: 3, Position: (12, 7))  
 61 , (Sequence: ;, Token Category: 22, Position: (12, 8))  
 62 , (Sequence: **while**, Token Category: 18, Position: (13, 0))  
 63 , (Sequence: (, Token Category: 23, Position: (13, 5))  
 64 , (Sequence: gap, Token Category: 1, Position: (13, 6))  
 65 , (Sequence: <, Token Category: 6, Position: (13, 9))  
 66 , (Sequence: size, Token Category: 1, Position: (13, 10))  
 67 , (Sequence: ), Token Category: 24, Position: (13, 14))  
 68 , (Sequence: {, Token Category: 25, Position: (13, 15))  
 69 , (Sequence: gap, Token Category: 1, Position: (14, 0))  
 70 , (Sequence: =, Token Category: 5, Position: (14, 3))  
 71 , (Sequence: 3, Token Category: 3, Position: (14, 4))  
 72 , (Sequence: \*, Token Category: 9, Position: (14, 5))  
 73 , (Sequence: gap, Token Category: 1, Position: (14, 6))  
 74 , (Sequence: +, Token Category: 8, Position: (14, 9))  
 75 , (Sequence: 1, Token Category: 3, Position: (14, 10))  
 76 , (Sequence: ;, Token Category: 22, Position: (14, 11))  
 77 , (Sequence: }, Token Category: 26, Position: (15, 0))  
 78 , (Sequence: ;, Token Category: 22, Position: (15, 1))  
 79 , (Sequence: **while**, Token Category: 18, Position: (17, 0))  
 80 , (Sequence: (, Token Category: 23, Position: (17, 5))  
 81 , (Sequence: gap, Token Category: 1, Position: (17, 6))  
 82 , (Sequence: >, Token Category: 6, Position: (17, 9))  
 83 , (Sequence: 1, Token Category: 3, Position: (17, 10))  
 84 , (Sequence: ), Token Category: 24, Position: (17, 11))  
 85 , (Sequence: {, Token Category: 25, Position: (17, 12))  
 86 , (Sequence: gap, Token Category: 1, Position: (18, 0))  
 87 , (Sequence: =, Token Category: 5, Position: (18, 3))  
 88 , (Sequence: gap, Token Category: 1, Position: (18, 4))  
 89 , (Sequence: /, Token Category: 9, Position: (18, 7))  
 90 , (Sequence: 3, Token Category: 3, Position: (18, 8))  
 91 , (Sequence: ;, Token Category: 22, Position: (18, 9))  
 92 , (Sequence: **for**, Token Category: 19, Position: (19, 0))  
 93 , (Sequence: (, Token Category: 23, Position: (19, 3))  
 94 , (Sequence: **int**, Token Category: 20, Position: (19, 4))  
 95 , (Sequence: i, Token Category: 1, Position: (19, 7))  
 96 , (Sequence: =, Token Category: 5, Position: (19, 8))  
 97 , (Sequence: gap, Token Category: 1, Position: (19, 9))  
 98 , (Sequence: ;, Token Category: 22, Position: (19, 12))  
 99 , (Sequence: i, Token Category: 1, Position: (19, 13))

100 , (Sequence: <, Token Category: 6, Position: (19, 14))  
101 , (Sequence: size, Token Category: 1, Position: (19, 15))  
102 , (Sequence: ;, Token Category: 22, Position: (19, 19))  
103 , (Sequence: i, Token Category: 1, Position: (19, 20))  
104 , (Sequence: =, Token Category: 5, Position: (19, 21))  
105 , (Sequence: i, Token Category: 1, Position: (19, 22))  
106 , (Sequence: +, Token Category: 8, Position: (19, 23))  
107 , (Sequence: 1, Token Category: 3, Position: (19, 24))  
108 , (Sequence: ), Token Category: 24, Position: (19, 25))  
109 , (Sequence: {, Token Category: 25, Position: (19, 26))  
110 , (Sequence: value, Token Category: 1, Position: (20, 0))  
111 , (Sequence: =, Token Category: 5, Position: (20, 5))  
112 , (Sequence: getValue, Token Category: 1, Position: (20, 6))  
113 , (Sequence: (, Token Category: 23, Position: (20, 14))  
114 , (Sequence: vet, Token Category: 1, Position: (20, 15))  
115 , (Sequence: ,, Token Category: 22, Position: (20, 18))  
116 , (Sequence: i, Token Category: 1, Position: (20, 19))  
117 , (Sequence: ), Token Category: 24, Position: (20, 20))  
118 , (Sequence: ;, Token Category: 22, Position: (20, 21))  
119 , (Sequence: **int**, Token Category: 20, Position: (21, 0))  
120 , (Sequence: j, Token Category: 1, Position: (21, 3))  
121 , (Sequence: =, Token Category: 5, Position: (21, 4))  
122 , (Sequence: i, Token Category: 1, Position: (21, 5))  
123 , (Sequence: -, Token Category: 8, Position: (21, 6))  
124 , (Sequence: gap, Token Category: 1, Position: (21, 7))  
125 , (Sequence: ;, Token Category: 22, Position: (21, 10))  
126 , (Sequence: **while**, Token Category: 18, Position: (23, 0))  
127 , (Sequence: (, Token Category: 23, Position: (23, 5))  
128 , (Sequence: j, Token Category: 1, Position: (23, 6))  
129 , (Sequence: >, Token Category: 6, Position: (23, 7))  
130 , (Sequence: =, Token Category: 5, Position: (23, 8))  
131 , (Sequence: 0, Token Category: 3, Position: (23, 9))  
132 , (Sequence: and, Token Category: 12, Position: (23, 10))  
133 , (Sequence: value, Token Category: 1, Position: (23, 13))  
134 , (Sequence: <, Token Category: 6, Position: (23, 18))  
135 , (Sequence: getValue, Token Category: 1, Position: (23, 19))  
136 , (Sequence: (, Token Category: 23, Position: (23, 27))  
137 , (Sequence: vet, Token Category: 1, Position: (23, 28))  
138 , (Sequence: ,, Token Category: 22, Position: (23, 31))  
139 , (Sequence: j, Token Category: 1, Position: (23, 32))  
140 , (Sequence: ), Token Category: 24, Position: (23, 33))

141 , (Sequence: ), Token Category: 24, Position: (23, 34))  
142 , (Sequence: {, Token Category: 25, Position: (23, 35))  
143 , (Sequence: setValue, Token Category: 1, Position: (24, 0))  
144 , (Sequence: (, Token Category: 23, Position: (24, 8))  
145 , (Sequence: vet, Token Category: 1, Position: (24, 9))  
146 , (Sequence: ,, Token Category: 22, Position: (24, 12))  
147 , (Sequence: j, Token Category: 1, Position: (24, 13))  
148 , (Sequence: +, Token Category: 8, Position: (24, 14))  
149 , (Sequence: gap, Token Category: 1, Position: (24, 15))  
150 , (Sequence: ,, Token Category: 22, Position: (24, 18))  
151 , (Sequence: getValue, Token Category: 1, Position: (24, 19))  
152 , (Sequence: (, Token Category: 23, Position: (24, 27))  
153 , (Sequence: vet, Token Category: 1, Position: (24, 28))  
154 , (Sequence: ,, Token Category: 22, Position: (24, 31))  
155 , (Sequence: j, Token Category: 1, Position: (24, 32))  
156 , (Sequence: ), Token Category: 24, Position: (24, 33))  
157 , (Sequence: ), Token Category: 24, Position: (24, 34))  
158 , (Sequence: ;, Token Category: 22, Position: (24, 35))  
159 , (Sequence: j, Token Category: 1, Position: (25, 0))  
160 , (Sequence: =, Token Category: 5, Position: (25, 1))  
161 , (Sequence: j, Token Category: 1, Position: (25, 2))  
162 , (Sequence: -, Token Category: 8, Position: (25, 3))  
163 , (Sequence: gap, Token Category: 1, Position: (25, 4))  
164 , (Sequence: ;, Token Category: 22, Position: (25, 7))  
165 , (Sequence: }, Token Category: 26, Position: (26, 0))  
166 , (Sequence: ;, Token Category: 22, Position: (26, 1))  
167 , (Sequence: setValue, Token Category: 1, Position: (28, 0))  
168 , (Sequence: (, Token Category: 23, Position: (28, 8))  
169 , (Sequence: vet, Token Category: 1, Position: (28, 9))  
170 , (Sequence: ,, Token Category: 22, Position: (28, 12))  
171 , (Sequence: j, Token Category: 1, Position: (28, 13))  
172 , (Sequence: +, Token Category: 8, Position: (28, 14))  
173 , (Sequence: gap, Token Category: 1, Position: (28, 15))  
174 , (Sequence: ,, Token Category: 22, Position: (28, 18))  
175 , (Sequence: value, Token Category: 1, Position: (28, 19))  
176 , (Sequence: ), Token Category: 24, Position: (28, 24))  
177 , (Sequence: ;, Token Category: 22, Position: (28, 25))  
178 , (Sequence: }, Token Category: 26, Position: (29, 0))  
179 , (Sequence: ;, Token Category: 22, Position: (29, 1))  
180 , (Sequence: }, Token Category: 26, Position: (30, 0))  
181 , (Sequence: ;, Token Category: 22, Position: (30, 1))

182 , (Sequence: }, Token Category: 26, Position: (31, 0))  
183 , (Sequence: ;, Token Category: 22, Position: (31, 1))  
184 ]

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