1. Given the following grammar for identifiers (Id):

   \[ \text{Id} \ = \text{Let} \mid \text{Id Let} \mid \text{Id Dig} \]
   \[ \text{Let} \ = \text{a} \mid \text{b} \mid \text{c} \]
   \[ \text{Dig} \ = \text{0} \mid \text{1} \]

   write a regular expression defining identifiers

2. Given the following two grammars for matching parentheses

   Grammar 1: \[ S = ( ) \mid ( S ) \]
   
   Grammar 2: \[ M = ( ) \mid ( M ) \mid M \ \ M \]

   2a. Show a derivation of \( ( ( ( ) ) ) \) using Grammar 1, starting with \( S \)

   2b. Show a derivation of \( ( ( ) ) ( ) \) using Grammar 2, starting with \( M \)
2c. Is \((())\) produced by
   1. Grammar 1? (Y/N)
   2. Grammar 2? (Y/N)

2d. Is \((())()\) produced by
   1. grammar 1? (Y/N)
   2. grammar 2? (Y/N)

3. Complete the following table, keeping the operands in the same order

<table>
<thead>
<tr>
<th>Prefix expression</th>
<th>Infix expression</th>
<th>Postfix expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>* + a b c</td>
<td>(a+b) * c</td>
<td>a b + c *</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a - b - c</td>
</tr>
<tr>
<td>* / a b + c d</td>
<td></td>
<td>a b c d - - *</td>
</tr>
<tr>
<td></td>
<td></td>
<td>true or true and false</td>
</tr>
</tbody>
</table>