2. $\Sigma = \{0, 1\}$

Expresión regular: $(0101)^*$

Expresión generatiwa: $S \to 0101S \mid \lambda$

(ii) $\Sigma = \{a, b, c\}$

Expresión regular: $((a \cup b)(c \cup a)ca)(a(b \cup c)^*)$

Expresión generatiwa:

$S \to A \mid B$

$A \to aA \mid bB \mid cA \mid c$

$B \to bB \mid c \mid aA$

$C \to aD$

$D \to aD \mid bD \mid cD \mid \lambda$

3. (i) $\{a^i, b^i, c^j, d^j : i, j \geq 1\}$

- a^i y d^i
- b^i y c^i

$S \to aSd \mid A$

$A \to bAc \mid bc$

(ii) $\{a^i, b^j, c^j, d^j : i, j \geq 1\}$

- a^i y b^i
- c^j y d^j

$S \to aSb \mid A$

$A \to cAd \mid cd$

(iii) $\{a^i, b^i, c^j, d^j : i, j \geq 1\} \cup \{a^i, b^j, c^j, d^j : i, j \geq 1\}$

$S \to aSd \mid aSb \mid A$

$A \to bAc \mid cAb \mid bc \mid cd$

(iv) $\{a^i, b^j, c^{i+j} : i \geq 0, j \geq 1\}$

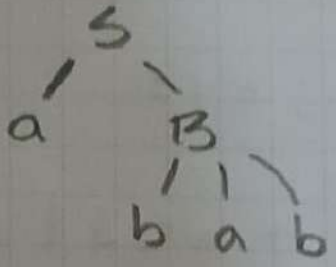
- $S \to B \mid aSc \mid \lambda$

$B \to bBc \mid bc$

4.

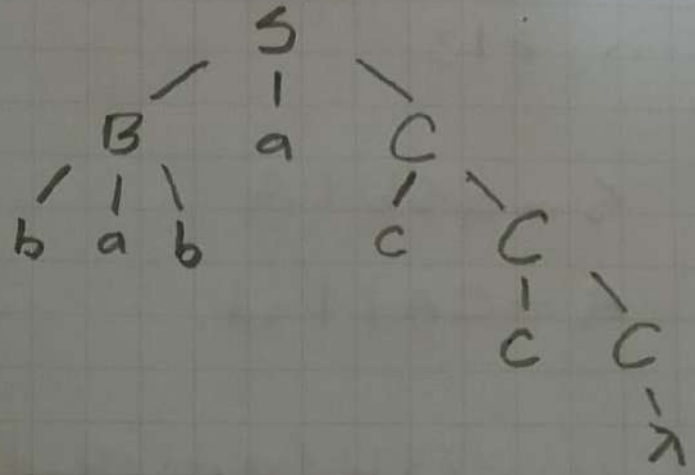
(i) $w_1 = abab$

1. $S \rightarrow aB$
2. $B \rightarrow bab$



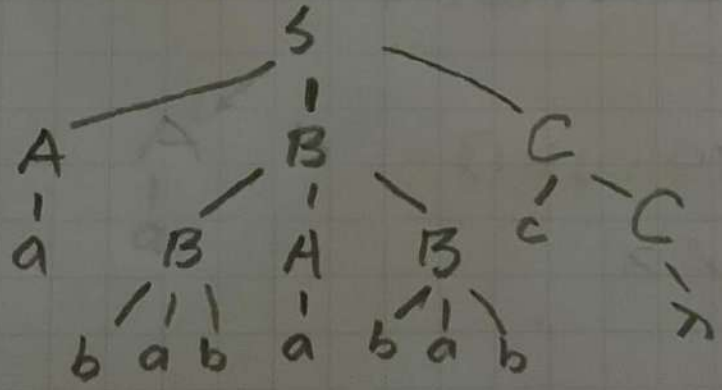
(ii) $w_2 = babacc$

$S \rightarrow BaC$
$B \rightarrow bab$
$A \rightarrow a$
$C \rightarrow cC$
$C \rightarrow c$
$C \rightarrow \lambda$



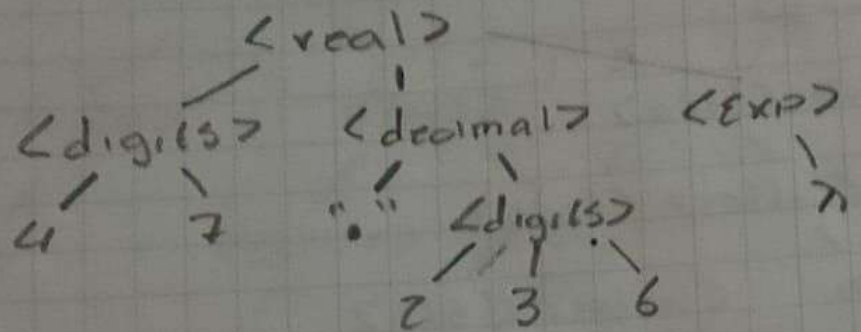
(iii) $w_3 = ababaabc$

$S \rightarrow ABC$
$B \rightarrow BAB$
$B \rightarrow bab$
$A \rightarrow a$
$C \rightarrow c$
$C \rightarrow \lambda$

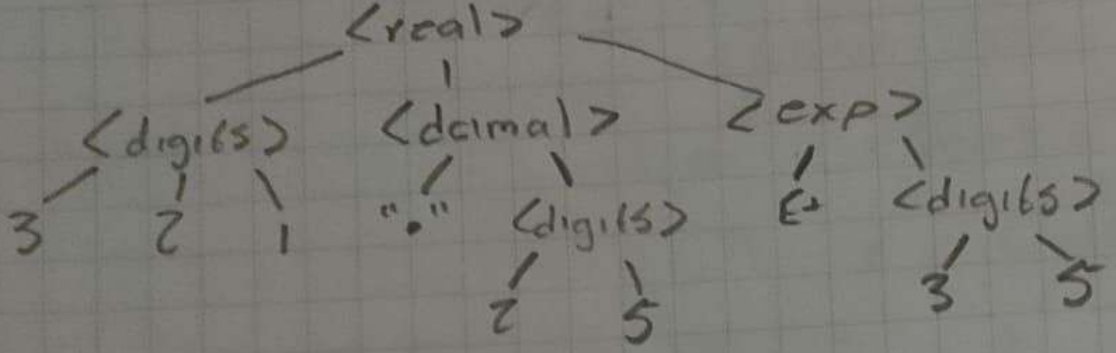


5.

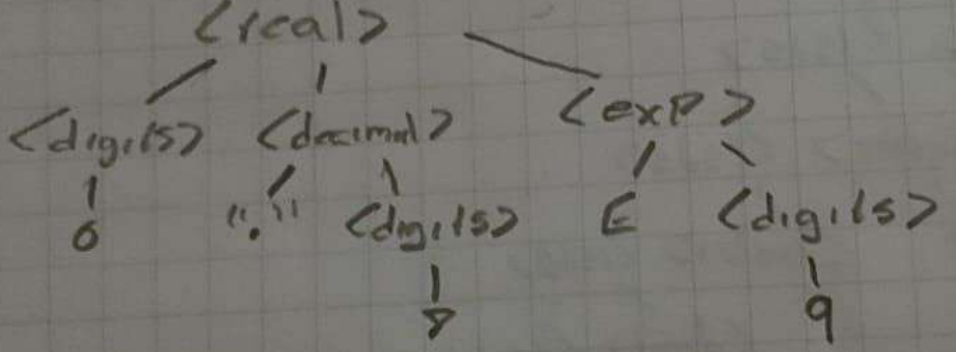
(i) $w_1 = 47.736$



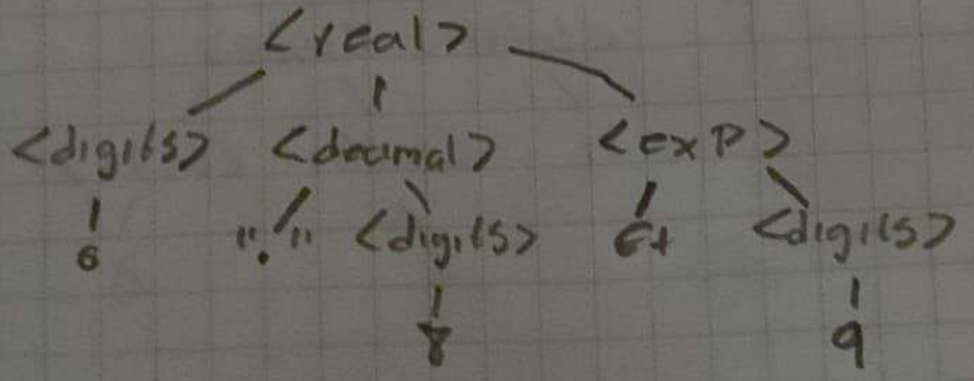
(ii) $w_2 = 321.25E+35$



(iii) $w_3 = 0.8E9$

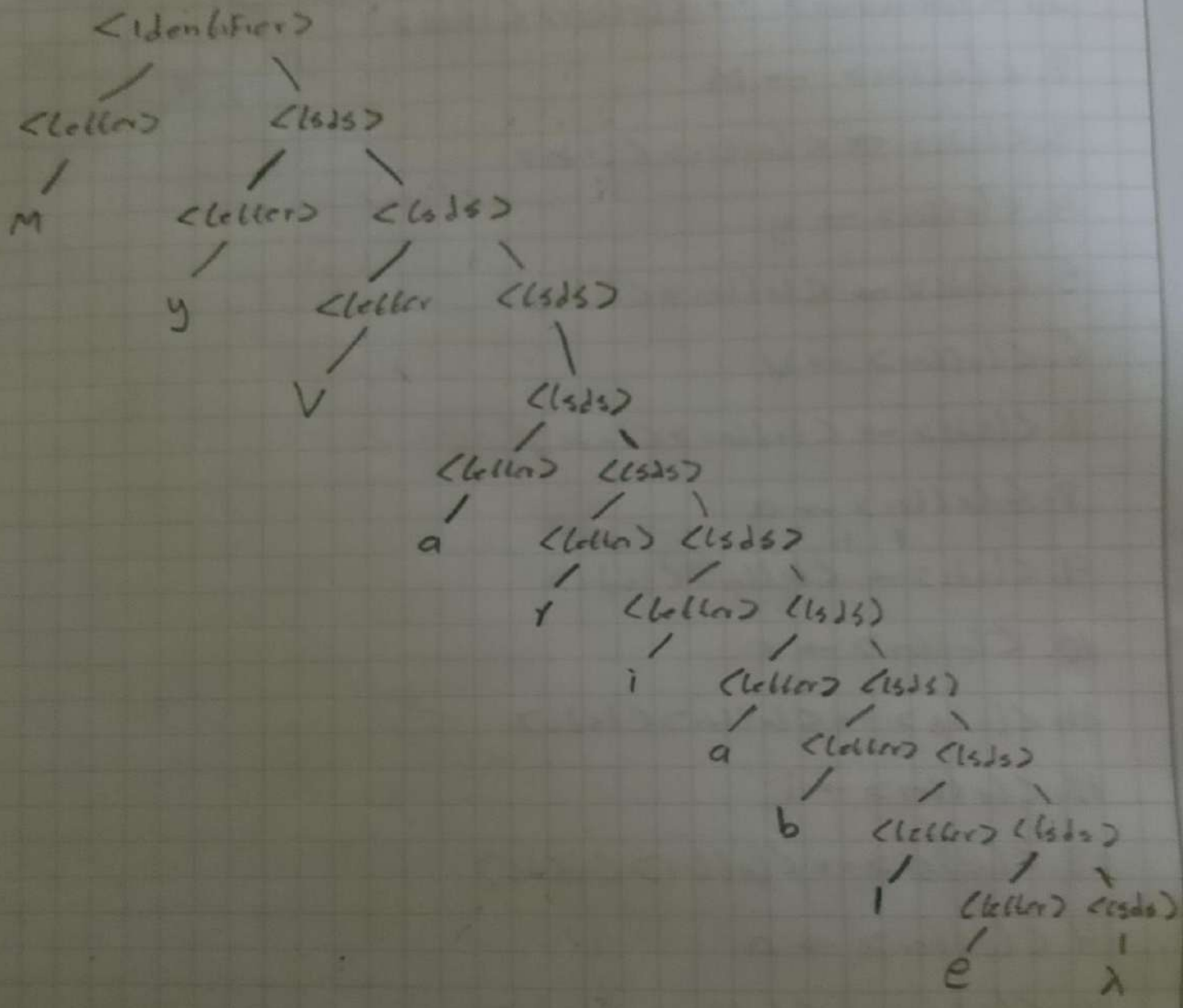


(iv) $w_4 = 0.8E+9$

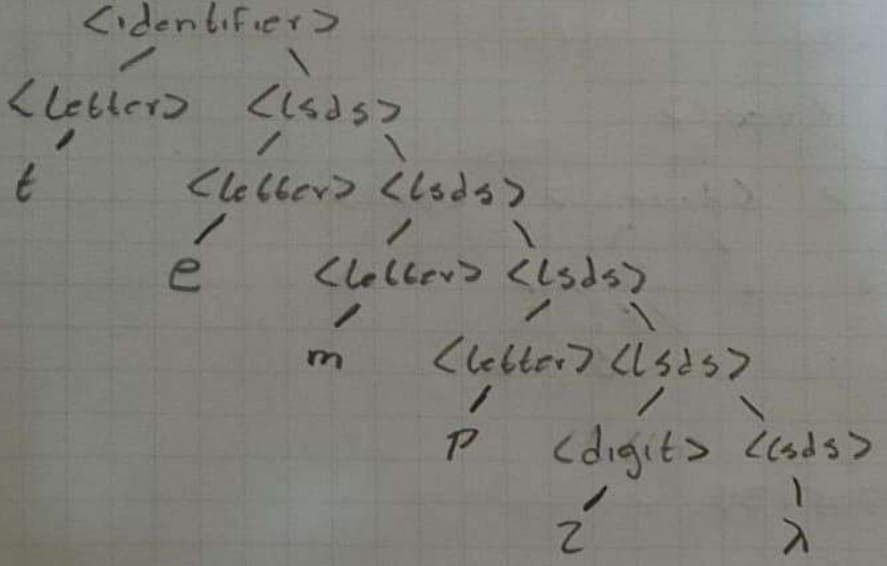


6.

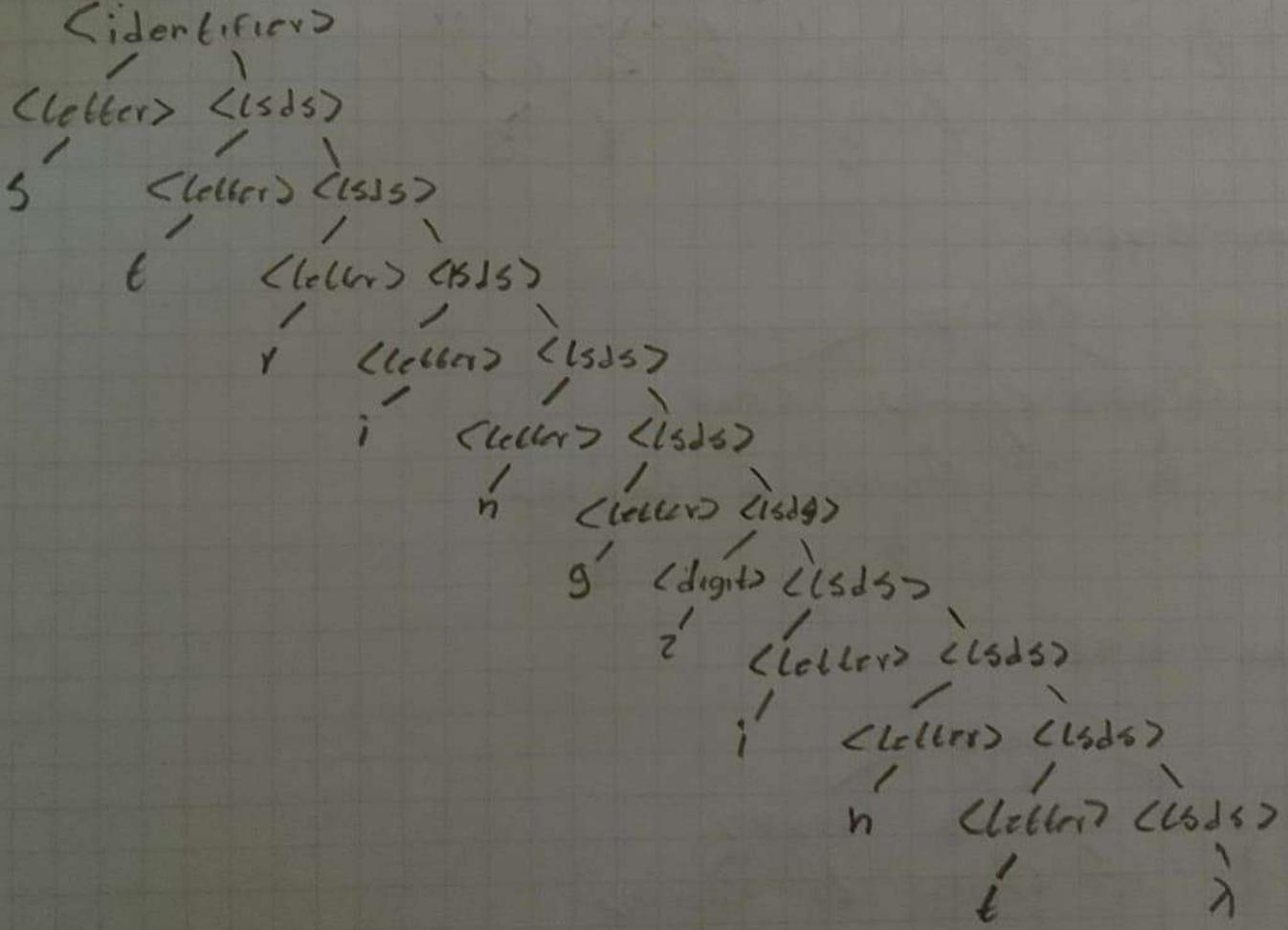
(i)


<identifier>
<letter>
<lsds>
M
<letter>
<lsds>
y
<letter>
<lsds>
V
<lsds>
<letter>
<lsds>
a
<letter>
<lsds>
r
<letter>
<lsds>
i
<letter>
<lsds>
a
<letter>
<lsds>
b
<letter>
<lsdo>
l
<letter>
<lsdo>
e
λ

(ii) w2 = tempt



(iii) w3 = StringZint



(iv) w4 = 2NotVariable : Comienza con un digito, no se puede derivar ya que no sigue la gramatica