Özge KAGMAZ 22253061

3.3.2

a) $M = (\{p, q\}, \Sigma, V, \Delta, p, \{q\})$

$\Sigma = \{ (,), [,] \}$

$V = \{ S, (,), [,] \}$

$\Delta = \{ ((p, e, e), (q, S)),$
$((q, e, S), (q, e)),$
$((q, e, S), (q, SS)),$
$((q, e, S), (q, [S])),$
$((q, e, S), (q, (S))),$
$((q, (, (), (q, e)),$
$((q,),)), (q, e)),$
$((q, [, [), (q, e)),$
$((q,],]), (q, e)) \}$

b) $M = (\{s, f, g\}, \{a, b\}, \{a\}, \Delta, s, \{f, g\})$

$\Delta = \{ ((s, a, e), (s, a)),$
$((s, e, e), (f, e)),$
$((f, b, a), (f, e)),$
$((f, b, a), (g, e)),$
$((g, b, e), (f, e)) \}$

c) $M = (\underbrace{\{q_1, q_2, q_3, q_4\}}_{K}, \underbrace{\{a, b\}}_{\Sigma}, \underbrace{\{a, b, c\}}_{\Gamma}, \Delta, q_1, \{q_1, q_4\})$

$\Delta = \{ ((q_1, e, e), (q_2, c)),$
$((q_2, a, e), (q_2, a)),$
$((q_2, b, e), (q_2, b)),$
$((q_2, a, e), (q_3, e)),$
$((q_2, b, e), (q_3, e)),$
$((q_2, e, e), (q_3, e)),$] // |w| çiftse

$((q_3, a, a), (q_3, e)),$
$((q_3, b, b), (q_3, e)),$
$((q_3, e, c), (q_4, e))\}$

d) $M = (\{S\}, \{a, b\}, \{A, B\}, \Delta, S, \{S\})$

$\Delta = \{((S, b, e), (S, B)), ((S, b, A), (S, e)),$

$((S, a, B), (S, e)), ((S, a, e), (S, AA)), ((S, a, A),$
$(S, A))\}$

3.4.1:

$M = (\{p, q\}, \{(,)\}, \{S, (,)\}, \Delta, p, \{q\})$

$\Delta = \{((p, e, e), (q, S)), ((q, e, S), (q, e)),$

$((q, e, S), (q, SS)), ((q, e, S), (q, (S)),$

$((q, (, (), (q, e)), ((q,),), (q, e))\}$

• (()()) girişi için:

$(p, (()()), e) \vdash (q, (()()), S) \vdash (q, (()()), (S))$
$\vdash (q, ()()), S) \vdash (q, ()(), SS) \vdash (q, ()(), (S)S)$
$\vdash (q,)()), SS) \vdash (q,)()),)SS) \vdash (q, ()), SS)$
$\vdash (q, ()), SS) \vdash (q, (), (S)S) \vdash (q,), S)S)$
$\vdash (q,),)SS) \vdash (q,), SS) \vdash (q, e, S)$

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