Assessment 11

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

1) Let $L = \{kw\overline{w} | w \in \{a, b\}^*\}$ where $\overline{w}$ is reverse of $w$ and $\Sigma = \{a, b, k\}$. Is $L$ accepted by any PDA?

(a) Yes
(b) No
(c) Depends on $k$

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

2)
If \( L = \{a^i b^j c^k d^l | i = k \& j = l, i, j \geq 1 \} \). Is it equivalent to given PDA?

(a) True
(b) False

No, the answer is incorrect.
Score: 0
Accepted Answers:
b.

3) 1 point
What is the missing part in given PDA so that it is equivalent to
$L = \{ w | w \in \Sigma^*, \Sigma = \{ a, b \}, w \text{ is a palindrome of odd length } \}$?

\[
\begin{align*}
&b,a/ba \\
&a,b/ab \\
&b,b/bb \\
&a,a/aa \\
&b,\epsilon/a \\
&a,\epsilon/b \\
&b,\epsilon/a \\
&\epsilon,\epsilon/\epsilon \\
\end{align*}
\]

(a) \( a,a/a \)
   \( a,b/b \)
   \( b,a/\epsilon \)
   \( b,b/\epsilon \)
(b) \( a,a/\epsilon \)
    \( a,b/\epsilon \)
    \( b,a/a \)
    \( b,b/b \)
(c) \( a,a/a \)
    \( a,b/b \)
    \( b,a/a \)
    \( b,b/b \)
(d) None of the above

☐ a.
☐ b.
☐ c.
☐ d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

4) 1 point
If $L = \{a^m b^n c^p d^q | m + n + p + q; m, n, p, q \geq 1 \}$ then is $L$ accepted by given PDA?

(a) Yes
(b) No

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.

5)
If $L$ is the language accepted by some DPDA $P$, then $L$ has an unambiguous CFG. True or False?

(a) True
(b) False

No, the answer is incorrect.
Score: 0
Accepted Answers:
a.

6)
PDA with acceptance by final state is equivalent to PDA with acceptance by empty stack. True or false?

(a) True
(b) False

Score: 0
Accepted Answers:
a.
7) Is the given PDA deterministic?

(a) Yes
(b) No

No, the answer is incorrect.
Score: 0
Accepted Answers: a.

8) Is the following definition of DPDA?

\[ P = (Q, \Sigma, \Gamma, \delta, q_0, Z_0, F) \]

1) \( \delta(q, a, X) \) has at most one member for any \( q \in Q, a \in \Sigma \) or \( a = \epsilon \) and \( X \in \Gamma \)

2) If \( \delta(q, a, X) \) is nonempty, for some \( a \in \Sigma \) then \( \delta(q, \epsilon, X) \) must be empty.

(a) Yes
(b) No

No, the answer is incorrect.
Score: 0
Accepted Answers: a.

9) 0 points
Which of these languages is accepted by the given PDA?

- (a) \( \{0^n0^n | n \geq 0\} \)
- (b) \( \{0^n1^n | n \geq 1\} \)
- (c) \( \{0^n1^m | n \geq 0, m \geq 0\} \)
- (d) \( \{0^n1^m | n = 2m\} \)

No, the answer is incorrect.
Score: 0
Accepted Answers:
- a.