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NPTEL

reviewer4@nptel.iitm.ac.in ▼

Courses » Introduction to Automata, Languages and Computation

Announcements **Course** Ask a Question Progress FAQ

Unit 12 - Week 11

Register for
Certification exam

Course outline

How to access
the portal

Week 1

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Week 11

● Lecture 51 :
Deterministic
PDA

● Lecture 52 :
Equivalence of
language
accepted

● Lecture 53 :
Equivalence

Assessment 11

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2019-04-17, 23:59 IST.**

1) 1 point

Let $L = \{wkw^r \mid w \in \{a, b\}^*\}$ where w^r is reverse of w and $\Sigma = \{a, b, k\}$.
Is L accepted by any PDA?

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

- a.
 b.
 c.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

2) 1 point

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Lecture Material

Quiz : Assessment 11

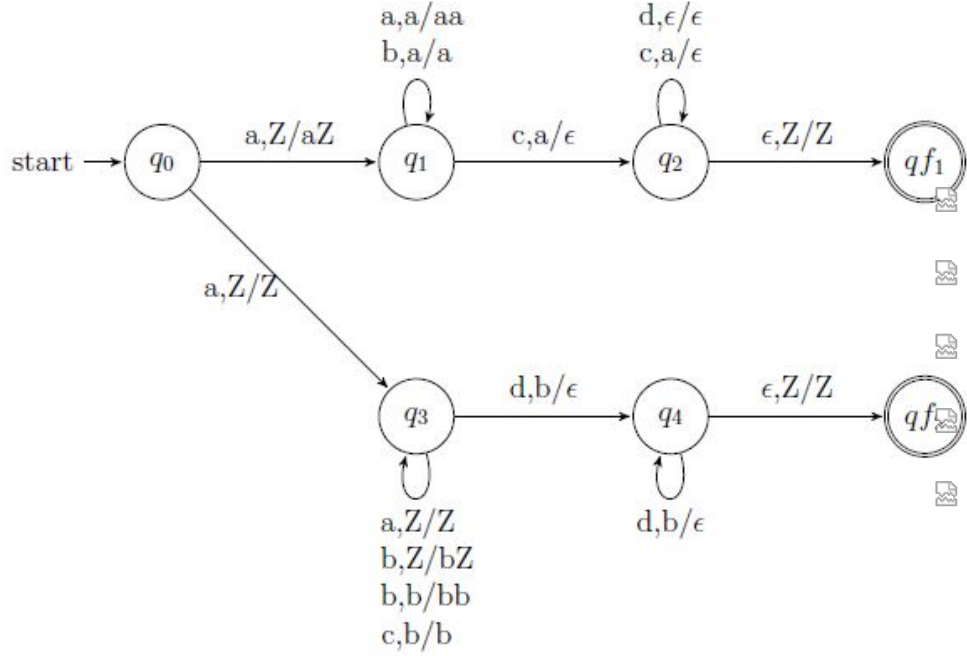
Feedback for Week 11

Week 12

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Solution

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



(a) True

(b) False

- a.
- b.

No, the answer is incorrect.

Score: 0

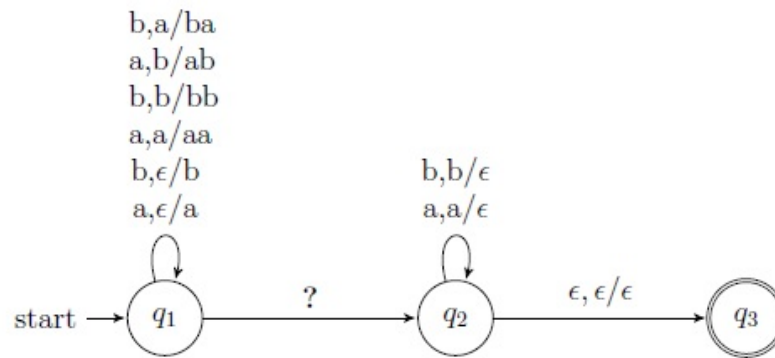
Accepted Answers:

b.

3)

1 point

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



- (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

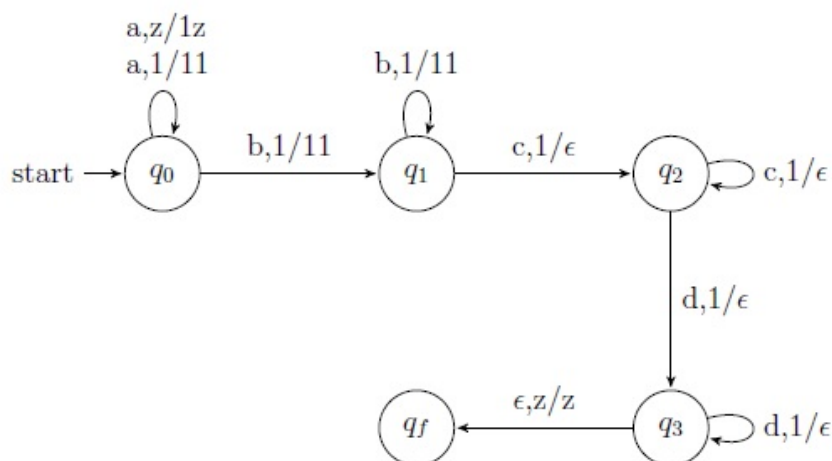
Accepted Answers:

d.

4)

1 point

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



(a) Yes

(b) No

- a.
- b.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

5)

1 point

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

(a) True

(b) False

- a.
- b.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

6)

1 point

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

(a) True

(b) False

- a.
- b.

No, the answer is incorrect.

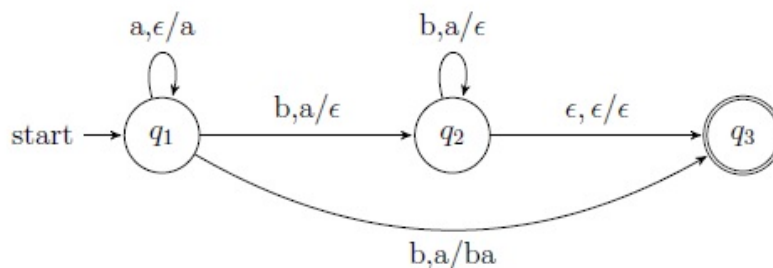
Score: 0

Accepted Answers:

a.

7) Is the given PDA deterministic?

1 point



(a) Yes

(b) No

a.

b.

No, the answer is incorrect.

Score: 0

Accepted Answers:

b.

8)

1 point

Is the following definition of DPDA?

$P = (Q, \Sigma, \Gamma, \delta, q_0, Z_0, F)$ with

- 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

a.

b.

No, the answer is incorrect.

Score: 0

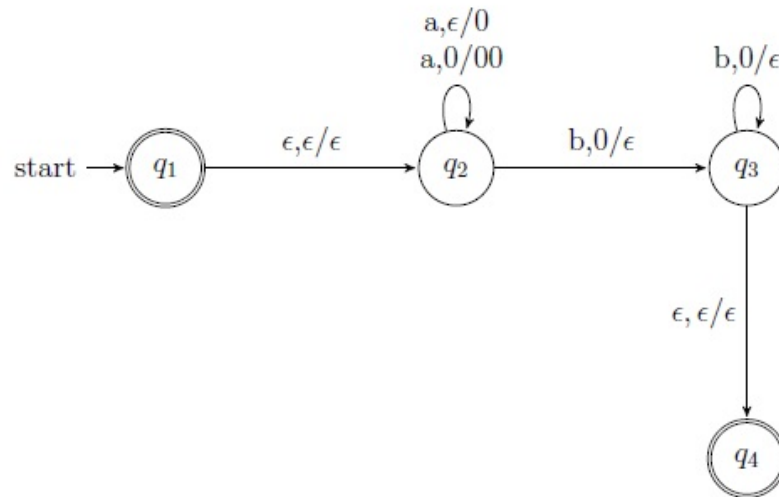
Accepted Answers:

a.

9)

0 points

Which of these language is accepted by given PDA?



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

- a.
- b.
- c.
- d.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a.

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