Started on	Thursday, 4 March 2021, 10:27 AM
State	Finished
Completed on	Thursday, 4 March 2021, 10:38 AM
Time taken	10 mins 36 secs
Grade	**8.5** out of 10.0 (**85**%)

Question **1**

Complete

Mark 4.5 out of 6.0

[multiple choice question, +1 point for each correct answer -1 for each incorrect answer, minimum 0 points total]

Which of the following statements are true about PDA:

- [x] 1. It has an external memory with an initial start symbol
- [ ] 2. It has an external memory that follows First in First Out Policy (FIFO)
- [x] 3. It can manipulate the external memory as part of performing a transition
- [x] 4. It uses the external memory to decide which transition has to be made
- [ ] 5. It can be used for parsing programming languages
- [ ] 6. Regular languages are not recognized by PDA's

Question **2**

Complete

Mark 3.0 out of 3.0

[multiple choice question, +1 point for each correct answer -1 for each incorrect answer, minimum 0 points total]

Mark the conditions needed to complete the Pumping lemma:

Let L be a regular language. Then there exists an integer $m \geq 1$ such that every string w in L of length at least m can be written as $w = xyz$, satisfying the following conditions:

- [x] 1. $|xy| \leq m$
- [x] 2. $|y| \geq 1$
- [ ] 3. $|y| \geq 0$
- [ ] 4. $|xyz| \leq m$
- [x] 5. $\forall i \geq 0\ xy^iz \in L$
- [ ] 6. $\exists i \geq 0\ xy^iz \in L$
- [ ] 7. $\exists i \geq 0\ xy^iz \notin L$
- [ ] 8. $\forall i \geq 0\ xy^iz \notin L$

Question 3

Complete

Mark 1.0 out of 1.0

Is $L = \{a^n \mid n \text{ is even}\}$ a regular language?

1. Yes, which can be proved using pumping lemma
2. No, which can be proved using pumping lemma
3. Yes, but we cannot prove it using pumping lemma
4. No, but we cannot prove it using pumping lemma