0/10 Questions Answered

Week 1 Wednesday Review Quiz

Student Name

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Q1 Strings in language described by set notation

1 Point

Consider the language $\{w \mid w \text{ is a string over } \{0,1\} \text{ and } |w| \text{ is an integer multiple of } 3\}$. Which of the following are elements of this language? (Select all and only that apply)

- [ ] The empty set
- [ ] The empty string
- [ ] 0
- [ ] $(1, 0, 1)$
- [ ] $\{000\}$

Save Answer

Q2 Describing a language with a regular expression
1 Point

Which of the following regular expressions describe the language $\{w \mid w \text{ is a string over } \{0,1\} \text{ and } |w| \text{ is an integer multiple of } 3\}$? (Select all that apply)

- [ ] $(0 \cup 1)^*$
- [ ] $((0 \cup 1)(0 \cup 1)(0 \cup 1))^*$
- [ ] $((000) \cup (001) \cup (010) \cup (011) \cup (100) \cup (101) \cup (110) \cup (111))^*$
- [ ] $(000)^* \cup (001)^* \cup (010)^* \cup (011)^* \cup (100)^* \cup (101)^* \cup (110)^* \cup (111)^*$

Save Answer

Q3 Describing a language in mathematical notation
1 Point

The language over $\{0, 1\}$ described by the regular expression 1^+ is $L(\ (1)^+\ ) =$

(Select all that apply)

- [ ] The set of all strings that end in 1
- [ ] $\{w1 \mid w \in \{0, 1\}^*\}$
- [ ] The set of all nonempty strings of 1
- [ ] $\{1^n \mid n \in \mathcal{N}\}$

Save Answer

Q4 Describing a language in mathematical notation
1 Point

The language over $\Sigma_1 = \{0, 1\}$ described by the regular expression $\Sigma_1^* 1$ is $L(\ \Sigma_1^* 1\ ) =$

(Select all that apply)

- [ ] The set of all strings that end in 1
- [ ] $\{w1 \mid w \in \{0, 1\}^*\}$
- [ ] The set of all nonempty strings of 1
- [ ] $\{1^n \mid n \in \mathcal{N}\}$

Save Answer

Q5 Strings in language described by set notation
1 Point

Consider the language $X = \{w \mid w \text{ is a string over } \Sigma \text{ and has at least two } a\text{'s and exactly one } b\}$ over the alphabet $\Sigma = \{a, b\}$. Which strings of length 3 are elements of this language? (Select all and only that apply)

- [ ] aaa
- [ ] aab
- [ ] aba
- [ ] abb
- [ ] baa
- [ ] bab
- [ ] bba
- [ ] bbb

Save Answer

Q6 Strings in language described by regular expression
1 Point

Which strings over the alphabet $\{a, b\}$ are in the language described by the regular expression $(a \cup b)^*$? (Select all and only that apply)

- [ ] bbbb
- [ ] bab
- [ ] (a,b)
- [ ] The empty set
- [ ] The empty string
- [ ] {aba}
- [ ] a

Save Answer

Q7 Strings in language described by regular expression
1 Point

Select all and only the strings over $\{a, b\}$ that are in $L(aa^* \cup bb^*)$

- [ ] ε
- [ ] aa
- [ ] ba

Save Answer

Q8 Describing a language with a regular expression
1 Point

Which of the following regular expressions describe the language $\{00, 01, 10, 11\}$? (Select all that apply)

- [ ] $\{00, 01, 10, 11\}$
- [ ] $00 \cup 01 \cup 10 \cup 11$
- [ ] $(0 \cup 1)(0 \cup 1)$
- [ ] $(00 \cup \emptyset) \cup (01 \cup 10 \cup 11)$
- [ ] $(0 \cup 1)^*$

Save Answer

Q9 Describing a language with a regular expression
2 Points

Which of the following regular expressions describe the language $\{0^n 1 \mid n \text{ is even}\}$? (Select all that apply)

- [ ] $(0^{2i}1)^*$
- [ ] $(\varepsilon \cup 00)^*1$
- [ ] $(\varepsilon \cup (00)^+)1$
- [ ] $(00)^*1$

Save Answer

Q10 Feedback

0 Points

Any feedback about this week's material or comments you'd like to share? (Optional; not for credit)

Save Answer

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