The homework should be submitted before 4pm on Feb 11. Late homeworks will not be accepted.

Remember that collaboration of any kind is not allowed.

1. Exhibit two distinct strings over the alphabet \{a, b\} that do not belong to the language \(b^* (a \cup ba)^* b^*\).

2. Exhibit two distinct strings that will be matched by the extended regular expression \(^{^\text{^((aa)+a)b(\1\1)+}}^\).}

3. Exhibit two distinct nonempty strings over the alphabet \{a\} that will not be matched by the extended regular expression \(^{^\text{^((aa)\2+|(aaaa)*a|aa)}}^\).}