1. If M is a Turing machine, we write <M> for the encoding of M as a string, and 'M w' for 'running M with input w'. Which of the following problems are decidable: (Multiple Choice) *

- [ ] the set { <M> : M has more than 17 states }
- [ ] the set { <M> : there is an input w of length <= 17 such that M w terminates in <= 100 steps }
- [ ] the set { <M> : there is an input w of length > 17 such that M w terminates in <= 100 steps }

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1. If M is a Turing machine, we write <M> for the encoding of M as a string, and 'M w' for 'running M with input w'. Which of the following problems is recursively enumerable? (Multiple Choice) *

- [ ] the set { <M> : there is an input w of length <= 17 such that M w terminates in > 100 steps }
- [ ] the set { <M> : there is an input w of length > 17 so that M w terminates in > 100 steps }