

Name: _____ Teacher: _____

Class: _____ Date: _____

Can robots be creative?

1. Who was Lady Ada Lovelace and what was her contribution to computer science?

2. How do genetic algorithms work?

3. Why do researchers use evolutionary algorithms in an effort to develop creative robots?

4. Name a computational approach that could lead to outcomes that would be impossible, or very difficult for humans to track.

- | | |
|---|---|
| <input type="checkbox"/> Chaotic functions | <input type="checkbox"/> Fuzzy logic |
| <input type="checkbox"/> Genetic algorithms | <input type="checkbox"/> All of the above |

5. Researchers have used genetic algorithms in an effort to build creative robots since genetic algorithms:

- | | | |
|---|--|--|
| <input type="checkbox"/> Utilize randomness and complexity that leads to original outcome that is impossible, or very difficult, for humans to reverse engineer | <input type="checkbox"/> Introduce human aesthetics into the computational methods in order to create outcomes that would be perceived by humans as beautiful, meaningful, and/or valuable | <input type="checkbox"/> Utilize evolutionary methods that could evolve robots to become smarter and more creative than humans |
|---|--|--|