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The Task Task: Creative problem generation in humans and language models

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Abstract

Machine creativity is on the rise. Recent studies find that large language models achieve human performance on common psychological tests of creativity, which often pose a given problem and ask for novel or unusual solutions. But can AI go beyond producing solutions for given problems, to creatively propose new problems? We present the Task Task, a novel test that asks participants to come up with creative problems. In this test, we assess the ability of humans and GPT-4 to design challenge tasks for a game show. We evaluated proposed tasks using crowdsourced subjective creativity ratings, as well as computational measures of linguistic complexity and semantic content. We found that GPT-4 achieves similar scores as humans on creativity, originality, and judgments of how fun or difficult the tasks are. However, model-generated output tends to be shorter and connect more semantically distant concepts. We discuss implications and future directions for the psychology of creativity.