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Subject: Prompt engineering

Chapter:

Category: Assignment 2

MCQs

1) Which of the following is NOT a key step in problem formulation?
i) Defining the problem statement
ii) Identifying the desired output
iii) Specifying the input data
iv) Implementing the solution

2) Effective problem formulation is important because:
i) It clarifies the scope and boundaries of the problem
ii) It helps to understand the stakeholders and their requirements
iii) It guides the selection of appropriate techniques and approaches
iv) All of the above

3) Which of the following is a potential consequence of poor problem formulation?
i) Wasted resources and time
ii) Suboptimal or incorrect solutions
iii) Misalignment with stakeholder expectations
iv) All of the above

4) In the context of prompt engineering, accurate problem formulation is crucial because:
i) It ensures that the prompts are aligned with the desired task
ii) It helps to identify the appropriate language model and techniques
iii) It sets the foundation for evaluating the performance of prompts
iv) All of the above

5) Which of the following statements best describes the relationship between problem formulation and prompt engineering?
i) Problem formulation is a subset of prompt engineering
ii) Prompt engineering is a subset of problem formulation
iii) They are separate and independent processes
iv) Problem formulation is a prerequisite for effective prompt engineering

6) In a real-world scenario, if the problem formulation changes, which of the following steps would be necessary?
i) Modify the prompts to align with the new problem formulation
ii) Retrain the language model from scratch
iii) Change the evaluation metrics
iv) Both i) and iii)

7) Which of the following is NOT a typical component of an effective problem formulation?
i) Clear problem statement

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8) In a prompt engineering task for a customer service chatbot, which component of the problem formulation would be the most critical?

i) Defining the scope of customer inquiries
ii) Specifying the language and tone of the responses
iii) Identifying the data sources for training the language model
iv) All of the above are equally important

9) Which of the following techniques can be used for problem diagnosis in prompt engineering?

i) Analyzing the performance of prompts on test cases
ii) Reviewing the prompts for potential ambiguities or errors
iii) Collecting feedback from subject matter experts
iv) All of the above

10) If a prompt is consistently producing incorrect or irrelevant outputs, what would be the most appropriate next step?

i) Retrain the language model with more data
ii) Diagnose the problem by analysing the prompt and input data
iii) Change the evaluation metrics
iv) Abandon the prompt and start from scratch

11) Which of the following statements best describes the purpose of problem decomposition in prompt engineering?

i) Breaking down a complex problem into smaller, more manageable sub-problems
ii) Combining multiple prompts into a single, more powerful prompt
iii) Generating prompts automatically using machine learning techniques
iv) Evaluating the performance of prompts on different tasks

12) In a prompt engineering task for a legal document analysis system, which of the following sub-problems would be relevant?

i) Extracting key information from the documents
ii) Identifying legal clauses and terms
iii) Summarizing the relevant sections
iv) All of the above

13) Which of the following scenarios would benefit from problem reframing?

i) When the initial problem formulation is unclear or ambiguous
ii) When the problem statement is overly complex or difficult to approach
iii) When the problem constraints or assumptions need to be revised
iv) All of the above

14) In a prompt engineering task for a creative writing assistant, which of the following would be an example of problem reframing?

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15) Which of the following is NOT a common type of constraint in prompt engineering?
i) Length constraints
ii) Content constraints
iii) Computational constraints
iv) Ethical constraints

16) In a prompt engineering task for a language translation system, which of the following constraints would be most relevant?
i) Ensuring accurate and fluent translations
ii) Preserving the contextual meaning across languages
iii) Handling domain-specific terminology and jargon
iv) All of the above

17) Which of the following is NOT a key aspect of effective problem constraint design in prompt engineering?
i) Aligning constraints with the problem statement and desired output
ii) Considering the capabilities and limitations of the language model
iii) Ensuring constraints are measurable and enforceable
iv) Specifying the implementation details of the solution

18) In a prompt engineering task for a text summarization system, which of the following would be an important constraint to consider?
i) Limiting the length of the summaries
ii) Preserving the key information and main ideas
iii) Ensuring the summaries are coherent and readable
iv) All of the above

19) Which of the following statements best summarizes the importance of problem formulation in prompt engineering?
i) It is a necessary step to ensure alignment between the prompts and the desired task
ii) It helps to identify potential challenges and constraints early in the process
iii) It guides the selection of appropriate techniques and evaluation methods
iv) All of the above

20) In a real-world scenario, which of the following would be a best practice for effective problem formulation in prompt engineering?
i) Involving stakeholders and subject matter experts in the formulation process
ii) Iterating and refining the problem formulation based on feedback and results
iii) Documenting the problem formulation and maintaining version control
iv) All of the above

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2. Discuss the role of stakeholder involvement in the problem formulation process for prompt engineering tasks. How can their inputs and requirements be effectively incorporated?

3. In the context of a specific application (e.g., customer service chatbot, legal document analysis, creative writing assistant), provide an example of how you would approach problem formulation, including the key components and constraints.

4. Describe a scenario where problem decomposition would be beneficial in prompt engineering. How would you break down a complex problem into smaller sub-problems, and what factors would you consider?

5. Explain the concept of problem reframing and provide an example of when it might be necessary in prompt engineering. How can reframing help overcome challenges or limitations in the initial problem formulation?

6. Discuss the importance of constraint design in prompt engineering. What types of constraints should be considered, and how can they be effectively incorporated into the problem formulation?

7. In a real-world scenario where the problem formulation needs to be revised or updated, what steps would you take to ensure a smooth transition and maintain the integrity of the prompts and language models?

8. Describe the potential trade-offs and considerations when designing constraints for prompts in a specific domain or application (e.g., text summarization, language translation, content generation). How would you balance competing constraints or priorities?

9. Explain the role of problem diagnosis in prompt engineering. What techniques or approaches would you use to identify and troubleshoot issues related to problem formulation or prompt design?

10. Discuss the importance of documenting and maintaining version control for problem formulations in prompt engineering projects. How can this practice contribute to the reproducibility, transparency, and iterative improvement of prompt engineering processes?

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