

**JIT\_compiler\_quiz\_fontys**

Total questions: 9

Worksheet time: 10mins

Instructor name: gildetest gilde

Name

Class

Date

1. Which of the following is a key feature of an interpreter?

- |                                                           |                                                            |
|-----------------------------------------------------------|------------------------------------------------------------|
| a) Executes machine code directly without any translation | b) Translates the entire program into machine code at once |
| c) Compiles the entire source code before execution       | d) Translates and executes code line-by-line               |

2. What is one major disadvantage of using an interpreter?

- |                                                                  |                                                   |
|------------------------------------------------------------------|---------------------------------------------------|
| a) It cannot handle dynamic code                                 | b) It requires the source code to be pre-compiled |
| c) It slows down execution because code is translated at runtime | d) It uses too much memory during execution       |

3. Which of the following programming languages commonly use interpreters?

- |           |             |
|-----------|-------------|
| a) Python | b) Java     |
| c) C++    | d) Assembly |

4. What is the main difference between a compiler and an interpreter?

- |                                                                                                          |                                                                                                                 |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| a) A compiler is slower in execution compared to an interpreter                                          | b) A compiler translates the entire program before execution, while an interpreter translates code line-by-line |
| c) A compiler works only with low-level languages, while an interpreter is used for high-level languages | d) A compiler directly executes the machine code without producing any intermediate results                     |

5. Which of the following is NOT an advantage of using a compiler?

- |                                                                                 |                                                        |
|---------------------------------------------------------------------------------|--------------------------------------------------------|
| a) Compilation provides better error detection during the execution             | b) The compiled program runs faster                    |
| c) The entire program is translated at once, so no need for runtime translation | d) The compiled code is independent of the source code |

6. Which of the following languages is commonly compiled?

- a) C
- b) Python
- c) PHP
- d) JavaScript

7. What does a Just-In-Time (JIT) compiler do?

- a) It compiles the entire program at the beginning of execution
- b) It compiles the code only when the source code changes
- c) It interprets code line-by-line without compiling
- d) It compiles parts of the code at runtime, just before execution

8. Which of the following is an advantage of using a JIT compiler?

- a) It generates a smaller executable file
- b) It avoids the need for compilation altogether
- c) It reduces the memory usage of the program
- d) It improves execution speed by dynamically optimizing code during runtime

9. In which programming environment is JIT compilation commonly used?

- a) Assembly Language
- b) Python Interpreter
- c) C++ Runtime
- d) Java Virtual Machine (JVM)

**Answer Keys**

- |                                                                                                                    |                                                                                 |                                  |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------|
| 1. d) Translates and executes code line-by-line                                                                    | 2. c) It slows down execution because code is translated at runtime             | 3. a) Python                     |
| 4. b) A compiler translates the entire program before execution, while an interpreter translates code line-by-line | 5. a) Compilation provides better error detection during the execution          | 6. a) C                          |
| 7. d) It compiles parts of the code at runtime, just before execution                                              | 8. d) It improves execution speed by dynamically optimizing code during runtime | 9. d) Java Virtual Machine (JVM) |

