Module 1 Quiz

AI Automation & Agents — Graded Assessment

15 Questions | LO 1.1 · LO 1.2 | 4 Question Types | ~20 Minutes

0 of 15 answered

PART A — MULTIPLE-CHOICE: DEFINITIONS & CONCEPTS (6 QUESTIONS)

QUESTION 1 OF 15 — LO 1.1

Which of the following is the most complete and precise definition of an *AI agent*?

- ○ A. Any software program that uses machine learning to classify data
- ○ B. A system that perceives its environment, reasons about a goal, selects actions, and executes them in a loop — potentially without step-by-step human direction
- ○ C. A large language model that generates text in response to user prompts
- ○ D. A rule-based chatbot that follows a predefined decision tree

QUESTION 2 OF 15 — LO 1.1

The term *autonomy* in the context of AI agents refers to:

- ○ A. The ability to learn new skills without any training data
- ○ B. The degree to which a system selects and executes actions based on its own reasoning rather than explicit human instructions at each step

- C. The use of multiple models running in parallel on separate hardware
- D. A system that operates without any internet connection

QUESTION 3 OF 15 LO 1.1

Which statement best characterizes the *boundary* between a conversational AI (chatbot) and an AI agent?

- A. Agents are always more accurate than chatbots
- B. Chatbots generate single-turn text responses; agents maintain state and execute actions in the external environment across multiple steps
- C. Chatbots can call external tools, whereas agents cannot
- D. The distinction is purely a marketing term with no technical basis

QUESTION 4 OF 15 LO 1.2

In the automation paradigm taxonomy, *Robotic Process Automation (RPA)* is best described as:

- A. Training a neural network to recognize screen elements and predict user intent
- B. Rule-based mimicry of human UI interactions — clicks, form fills, and data transfers — without understanding content
- C. An orchestration layer that routes API calls between microservices
- D. A natural language interface that lets non-technical users write automation scripts

QUESTION 5 OF 15 LO 1.2

Workflow orchestration **platforms (e.g., Zapier, n8n, Apache Airflow) differ from AI agents primarily because they:**

- ○ A. Cannot connect to external services or APIs
- ○ B. Execute explicitly defined, human-authored step sequences and do not reason adaptively about which action to take next
- ○ C. Are always slower and more expensive than AI agents
- ○ D. Require programming in a low-level language such as C or Rust

QUESTION 6 OF 15 LO 1.1

The concept of *tool use* in an LLM-powered agent means the model can:

- ○ A. Generate Python code that a human must then copy and execute manually
- ○ B. Invoke external functions — such as web search, code execution, or database queries — and receive their results as part of its reasoning context
- ○ C. Fine-tune itself on new data without restarting
- ○ D. Browse the web through a conventional browser GUI controlled by mouse movements alone

PART B — SCENARIO CLASSIFICATION (4 QUESTIONS)

QUESTION 7 OF 15 LO 1.2

Scenario: Every weekday at 9 AM, a script copies rows from a Google Sheet into a Salesforce CRM record. If a field is blank, the script skips that row. No LLM is

involved. Which automation paradigm does this represent?

- A. AI agent
- B. Workflow orchestration / scheduled automation
- C. Robotic Process Automation (RPA)
- D. Multi-agent system

QUESTION 8 OF 15

LO 1.1 · LO 1.2

Scenario: A system receives a user request to "research competitors and draft a report." It uses an LLM to plan subtasks, calls a web-search tool, retrieves pages, synthesizes findings, and writes a document — all without further human input. Which paradigm best describes this?

- A. RPA
- B. Workflow orchestration
- C. AI agent
- D. Supervised machine learning pipeline

QUESTION 9 OF 15

LO 1.2

Scenario: A bot logs into a legacy HR portal using stored credentials, navigates through fixed menu paths, copies employee IDs from a table, and pastes them into a spreadsheet. Which paradigm applies?

- A. AI agent

- B. API integration
- C. Robotic Process Automation (RPA)
- D. Reinforcement learning

QUESTION 10 OF 15 LO 1.1

Scenario: A user asks a system, "Book me a flight to NYC next Friday under $400." The system queries flight APIs, evaluates options against the constraint, selects the best match, and confirms the booking. Which characteristic most clearly makes this an *AI agent* rather than a workflow?

- A. It uses an API
- B. It reasons about the constraint and selects an action without a predefined step-by-step script
- C. It sends an email confirmation
- D. It runs on a cloud server

PART C — SEQUENCING (3 QUESTIONS) — DRAG ITEMS INTO CORRECT ORDER

QUESTION 11 OF 15 LO 1.1

Arrange the steps of the canonical *agent perception–reasoning–action loop* in correct order (1 = first).

Drag and drop to reorder.

⠿ 1 Formulate goal or retrieve task context

⠿ 2 Execute action via tool or effector

⠿ 3 Observe environment

⠿ 4 Receive feedback / updated observation

⠿ 5 Reason and select action

QUESTION 12 OF 15 LO 1.2

Rank these automation paradigms from *least autonomous* (1) to *most autonomous* (5).

Drag and drop to reorder. #1 = least autonomous.

⠿ 1 Workflow orchestration with branching logic

⠿ 2 Autonomous multi-agent system

⠿ 3 Single-step LLM with tool call

⠿ 4 Cron job / scheduled script

⠿ 5 RPA (UI-mimicry bots)

QUESTION 13 OF 15 LO 1.1

A developer is building an LLM agent that books travel. Arrange these *design decisions* in the recommended implementation order.

Drag and drop to reorder. #1 = first decision to make.

⠿ 1 Implement the reasoning prompt and tool-calling logic

⠿ 2 Define the agent's goal and success criteria

3 Test and evaluate agent behavior on edge cases

4 Identify which tools the agent needs (APIs, functions)

5 Design the memory and context management strategy

PART D — SHORT-ANSWER COMPARISONS (2 QUESTIONS · MAX 20 WORDS EACH)

QUESTION 14 OF 15 — LO 1.2

In ≤ 20 words, state the key trade-off that makes *RPA preferable to an AI agent* for a given task.

Your answer (max 20 words)...

0 / 20 words

QUESTION 15 OF 15 — LO 1.1 · LO 1.2

In ≤ 20 words, explain the key trade-off that makes *workflow orchestration preferable to an AI agent* in production environments.

Your answer (max 20 words)...

0 / 20 words

Submit & Grade Quiz