

## 1. What new improvements were introduced in Gemini 3.0? (Research and write short answer)

Gemini 3.0 introduces major upgrades in multimodal understanding, reasoning, and app development capabilities, making it Google's most advanced AI model to date.

Here are the key improvements:

- **Enhanced Multimodal Intelligence:** Gemini 3.0 can seamlessly process and integrate text, images, video, and code, enabling more sophisticated and context-aware outputs.
- **Superior Reasoning and Creativity:** The model demonstrates deeper logical reasoning and creative generation, improving performance in tasks like problem-solving, storytelling, and design.
- **Live App Creation:** With Gemini 3 Pro Coder, users can sketch or describe app ideas and instantly generate working applications—no coding required.
- **Improved Canvas Feature:** On mobile, Gemini 3.0 powers the Canvas tool with dramatically better outputs, especially in SVG animations and web design, even though the interface still shows “Gemini 2.5 Pro”.
- **Enterprise Integration:** Gemini 3 is now available on Vertex AI and Gemini Enterprise, offering businesses state-of-the-art multimodal analysis and automation tools.
- **Energy Efficiency and Robustness:** The model is designed to be more efficient and resilient, supporting broader deployment across Google’s ecosystem.

These upgrades position Gemini 3.0 as a transformative leap in generative AI, especially for developers, creators, and enterprise users.

## 2. How does Gemini 3.0 improve coding & automation workflows? (Research and write short answer)

Gemini 3.0 significantly enhances coding and automation workflows through advanced developer tools, deeper reasoning capabilities, and the introduction of agent-based task execution.

### Smarter Coding Assistance

- **Enhanced Code Generation:** Gemini 3.0 delivers more accurate and context-aware code suggestions across multiple languages, including Python, JavaScript, and Go.
- **Streaming Responses:** Developers can now receive real-time, streaming code completions, improving interactivity and reducing wait times.
- **Improved Context Handling:** The model can understand and operate over larger codebases, making it easier to refactor, debug, or extend existing projects.

### Automation with Gemini Agent

- **Agentic Actions:** Gemini 3.0 introduces the *Gemini Agent*, capable of executing multi-step tasks autonomously. This includes:
  - Filling out forms

- Navigating interfaces
- Triggering backend workflows
- **Task Chaining:** Developers can define complex workflows that the agent executes in sequence, reducing manual intervention.

## Developer Tools & APIs

- **Gemini 3 Pro API:** Offers a streamlined interface for integrating Gemini into apps and services, with support for both text and multimodal inputs.
- **Generative UI Capabilities:** Developers can describe UI components in natural language, and Gemini generates the corresponding code or layout automatically.
- **Cross-Platform SDKs:** Available for Python, Node.js, and other environments, making it easy to embed Gemini into diverse tech stacks.

## Workflow Integration

- **Deep Think Mode:** A new feature that enables more deliberate, step-by-step reasoning—ideal for debugging, code reviews, and architectural planning.
- **Multimodal Input for Automation:** Gemini can interpret screenshots, diagrams, or documents to trigger relevant automation flows.

These improvements make Gemini 3.0 a powerful co-pilot for developers, enabling faster prototyping, smarter automation, and more intuitive interaction with code and systems.

### 3. How does Gemini 3.0 improve multimodal understanding? (Research and write short answer)

**Gemini 3.0 significantly advances multimodal understanding by enabling seamless integration and reasoning across text, images, audio, and video.**

Key improvements include:

- **Unified Multimodal Architecture:** Gemini 3.0 is trained from the ground up to handle multiple data types natively, allowing it to interpret and combine different modalities more effectively than previous models.
- **Enhanced Contextual Reasoning:** It can analyze complex inputs—like a diagram with accompanying text or a narrated video—and generate coherent, insightful responses.
- **Benchmark-Leading Performance:** Gemini 3.0 outperforms other models on multimodal benchmarks such as MMU and MathVista, showcasing its superior ability to understand and reason across diverse content types.
- **Enterprise-Ready Capabilities:** Through platforms like Vertex AI, Gemini 3.0 supports real-world multimodal workflows, such as analyzing documents with embedded visuals or summarizing multimedia presentations.

These upgrades make Gemini 3.0 one of the most capable models for tasks that require deep understanding of mixed media.

**4. Name any two developer tools introduced with Gemini 3.0.**

(Research and write short answer)

**Two developer tools introduced with Gemini 3.0 are the Gemini API and Gemini Pro Coder.**

- **Gemini API:** A versatile platform that allows developers to build and scale applications using Gemini 3.0's advanced AI capabilities. It supports multiple languages including Python, JavaScript, and Go.
- **Gemini Pro Coder:** A specialized tool designed to assist with code generation, debugging, and automation workflows, offering real-time streaming responses and deeper reasoning for complex coding tasks.

These tools empower developers to integrate multimodal intelligence and automation into their apps more efficiently.

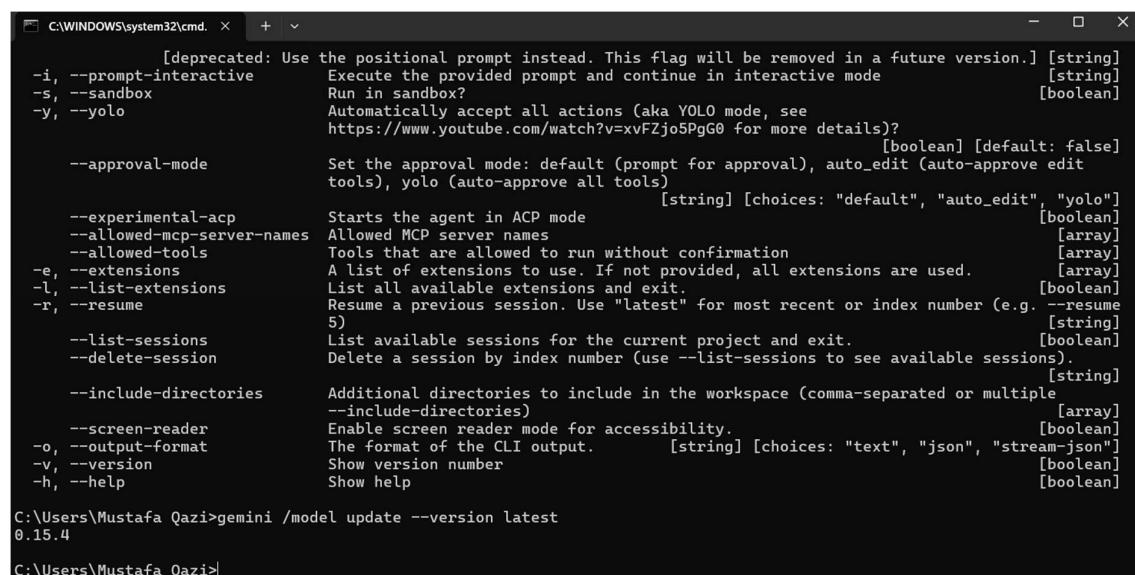
**PART B — Practical Task (Screenshot Required)**

You must complete the following steps:

**Update the Gemini 3.0 model**

**Using the /model command in Gemini CLI, update the Gemini model to the latest version (3.0).**

**Note: You do not need to update the CLI itself; only the model should be updated.**



```
C:\WINDOWS\system32\cmd. x + v
[deprecated: Use the positional prompt instead. This flag will be removed in a future version.] [string]
-i, --prompt-interactive      Execute the provided prompt and continue in interactive mode [string]
-s, --sandbox                 Run in sandbox? [boolean]
-y, --yolo                     Automatically accept all actions (aka YOLO mode, see https://www.youtube.com/watch?v=xvFZjo5PgG0 for more details)? [boolean] [default: false]
--approval-mode               Set the approval mode: default (prompt for approval), auto_edit (auto-approve edit tools), yolo (auto-approve all tools) [string] [choices: "default", "auto_edit", "yolo"]
--experimental-acp            Starts the agent in ACP mode [boolean]
--allowed-mcp-server-names   Allowed MCP server names [array]
--allowed-tools                Tools that are allowed to run without confirmation [array]
-e, --extensions              A list of extensions to use. If not provided, all extensions are used. [array]
-l, --list-extensions         List all available extensions and exit. [boolean]
-r, --resume                   Resume a previous session. Use "latest" for most recent or index number (e.g. --resume 5) [string]
--list-sessions               List available sessions for the current project and exit. [boolean]
--delete-session              Delete a session by index number (use --list-sessions to see available sessions). [string]
--include-directories          Additional directories to include in the workspace (comma-separated or multiple [array]
--screen-reader                Enable screen reader mode for accessibility. [boolean]
-o, --output-format            The format of the CLI output. [string] [choices: "text", "json", "stream-json"]
-v, --version                  Show version number [boolean]
-h, --help                      Show help [boolean]

C:\Users\Mustafa Qazi>gemini /model update --version latest
0.15.4

C:\Users\Mustafa Qazi>
```