

# GitHub Copilot Certification

## Exam Preparation Guide (GH-300)

Complete Reference Handout

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**Cluster Reply GmbH**

Internal Certification Course

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### About This Handout

This document provides comprehensive coverage of all seven domains tested in the GitHub Copilot Certification Exam (GH-300). Use it to prepare for the exam and as a reference during your studies.

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## 1 Exam Overview

Property	Details
Format	Multiple choice and scenario-based questions
Questions	60
Duration	120 minutes (2 hours)
Passing Score	Approximately 70% (42 correct answers)
Cost	\$99 USD (varies by region)
Validity	2 years from passing date
Retake Policy	24 hours after first attempt

Table 1: Exam format at a glance

### 1.1 Domain Weights

Domain	Topic	Weight
Domain 1	Responsible AI	7%
Domain 2	Plans and Features	31%
Domain 3	Data Pipeline	15%
Domain 4	Prompt Engineering	9%
Domain 5	Developer Use Cases	14%
Domain 6	Testing	9%
Domain 7	Privacy and Exclusions	15%
Total		100%

Table 2: Domain weights – Domain 2 is the largest at 31%

### 1.2 Target Audience

This certification is designed for:

- Software developers using GitHub Copilot
- DevOps engineers and administrators
- Project managers overseeing AI tool adoption
- Technical leads evaluating Copilot for teams

### 1.3 Prerequisites

No formal prerequisites, but recommended:

- Foundational understanding of GitHub
- Hands-on experience with GitHub Copilot
- Familiarity with at least one programming language
- Basic understanding of AI/ML concepts

## 2 Domain 1: Responsible AI (7%)

Microsoft's Responsible AI framework governs all AI products including GitHub Copilot. This domain tests your understanding of ethical AI principles and their practical application.

### 2.1 The Six Principles of Responsible AI

#### Memorize

##### Mnemonic: “FRPITA”

**F**airness · **R**eliability & Safety · **P**rivacy & Security · **I**nclusiveness · **T**ransparency · **A**ccountability

#### 2.1.1 1. Fairness

**Definition:** AI treats every user equitably, avoiding systematic bias.

##### Application to Copilot:

- Consistent code suggestions regardless of user background
- Equal quality across programming languages
- No discrimination based on coding style or region
- Bias detection and mitigation in suggestions

#### Key Concept

Copilot should amplify human capabilities without discrimination. A junior developer and senior architect should receive contextually appropriate suggestions of equal quality.

#### Exam Scenario

*“Copilot provides better Python suggestions than Ruby suggestions despite similar context.”*

**Answer:** This is a **Fairness** concern.

#### 2.1.2 2. Reliability and Safety

**Definition:** AI systems perform predictably and minimize risks.

##### Application to Copilot:

- Consistent behavior for similar inputs
- Rigorous testing against edge cases
- Resilient design against malicious inputs
- Adherence to secure coding standards

#### Key Concept

Reliability means **consistent** behavior, not **correct** behavior. Copilot can still suggest incorrect code, but it should fail gracefully and behave predictably.

#### Exam Scenario

*“A security team wants assurance Copilot won't generate malware when prompted maliciously.”*

**Answer:** This relates to **Reliability and Safety**.

### 2.1.3 3. Privacy and Security

**Definition:** Protecting user data, code, and usage patterns.

**Application to Copilot:**

- Azure encryption for all data (transit and rest)
- Hardware Security Modules (HSMs) for key management
- GitHub-owned Azure tenants (no third-party access)
- Clear data retention policies

#### Memorize

##### Data Retention:

- Business/Enterprise: Prompts **NEVER** used for training
- User engagement data: Retained **2 years**
- Chat history: Retained **28 days**
- Prompts: Discarded after response generation

#### Exam Scenario

*“A CISO asks how proprietary code is protected.”*

**Answer:** Azure encryption, HSMs, Business/Enterprise code **never** used for training.

### 2.1.4 4. Inclusiveness

**Definition:** AI should benefit everyone regardless of ability, location, or background.

**Application to Copilot:**

- Screen reader compatibility
- Full keyboard navigation
- Support for multiple natural languages in comments
- Adaptation to regional coding conventions

#### Exam Scenario

*“A visually impaired developer asks if Copilot is accessible.”*

**Answer:** This relates to **Inclusiveness**.

### 2.1.5 5. Transparency

**Definition:** Revealing how AI models make decisions.

**Application to Copilot:**

- `/explain` command for understanding suggestions
- Debugging tools for tracing logic
- Usage dashboards (Enterprise)
- Audit trails for compliance

#### Exam Scenario

*“A developer wants to understand why Copilot suggested a specific algorithm.”*

**Answer:** Use `/explain` command (**Transparency** principle).

### 2.1.6 6. Accountability

**Definition:** Clear ownership for AI outcomes.

**Application to Copilot:**

- Organizations must define roles and responsibilities
- Monitor system performance and usage
- Conduct regular audits
- Address harms promptly
- Microsoft maintains ongoing oversight

#### Critical

The **developer** is accountable for AI-generated code—not Copilot, not GitHub, not Microsoft. You review it, you commit it, you own it.

#### Exam Scenario

*“Who is responsible when Copilot-suggested code causes a production bug?”*

**Answer:** The **developer** who accepted and committed the code.

## 2.2 AI Limitations and Risks

**Limitations:**

- Training data may be outdated
- Limited context window (cannot see entire codebase)
- Cannot perform mathematical calculations reliably
- May suggest insecure coding patterns
- Bias inherited from training data
- No true understanding of intent (pattern matching only)

**Mitigation Strategies:**

- Always review and validate output
- Use code scanning tools (GitHub Advanced Security, Dependabot)
- Apply security best practices
- Test thoroughly before deployment
- Understand context window limitations
- Provide clear, specific prompts

#### Exam Tip

Expect 3–5 questions on Responsible AI principles. Questions are scenario-based—know the principles well enough to recognize them in context.

## 3 Domain 2: GitHub Copilot Plans and Features (31%)

This is the **largest** exam domain at 31%—approximately 18–19 questions. Master every detail of plan differences and features.

### 3.1 GitHub Copilot Plans Comparison



### 3.1.1 Copilot Free

**Price:** \$0 | **Completions:** 2,000/month | **Premium Requests:** 50/month  
**Target:** Developers trying Copilot  
**Key Limitations:** No IP indemnity, no policy management, no audit logs, limited model access, not available if you have a Business/Enterprise seat.

### 3.1.2 Copilot Pro

**Price:** \$10/month (\$100/year) | **Completions:** Unlimited | **Premium Requests:** 300/month  
**Target:** Individual developers  
**Key Features:** Full Chat, multiple AI models, Coding Agent access, free for verified students/teachers/OSS maintainers.  
**Key Limitations:** No IP indemnity, no organization controls, prompts may contribute to training (opt-out available).

### 3.1.3 Copilot Pro+

**Price:** \$39/month | **Completions:** Unlimited | **Premium Requests:** 1,500/month  
**Target:** Power users needing advanced models  
**Key Features:** All Pro features, access to ALL available AI models, highest premium request allowance for individuals, priority access to new features.

### 3.1.4 Copilot Business

**Price:** \$19/user/month | **Completions:** Unlimited | **Premium Requests:** 300/user/month  
**Target:** Teams and organizations  
**Key Features:** IP Indemnity, centralized license management, org-wide policy controls, audit logs, content exclusions, code **NEVER** used for training, Coding Agent access.  
**Key Limitations:** No Knowledge Bases, no custom models.

### 3.1.5 Copilot Enterprise

**Price:** \$39/user/month | **Completions:** Unlimited | **Premium Requests:** 1,000/user/month  
**Requirement:** GitHub Enterprise Cloud subscription  
**Target:** Large organizations  
**Key Features:** All Business features, Knowledge Bases, custom models, Chat on GitHub.com, PR summaries, enhanced security controls, SSO & SCIM support.

### 3.2 Feature Comparison Table

Feature	Free	Pro/Pro+	Business	Enterprise
IP Indemnity	✗	✗	✓	✓
Policy Management	✗	✗	✓	✓
Knowledge Bases	✗	✗	✗	✓
Coding Agent	✗	✓	✓	✓
Audit Logs	✗	✗	✓	✓
Content Exclusions	✗	✗	✓	✓
Code Used for Training	Maybe	Maybe	<b>NEVER</b>	<b>NEVER</b>
Custom Models	✗	✗	✗	✓
PR Summaries	✗	✗	✗	✓

Table 3: Feature availability by plan

### 3.3 Premium Request Limits

Memorize			
Plan	Monthly Limit	Overage Cost	
Free	50	N/A	
Pro	300	\$0.04 each	
Pro+	1,500	\$0.04 each	
Business	300/user	\$0.04 each	
Enterprise	1,000/user	\$0.04 each	

### 3.4 Interaction Methods

#### 3.4.1 1. Inline Suggestions (Ghost Text)

Gray “ghost text” appears as you type, providing real-time, context-aware suggestions.

Memorize			
Keyboard Shortcuts:			
Action	Windows	Mac	
Accept suggestion	Tab	Tab	
Dismiss suggestion	Esc	Esc	
Next suggestion	Alt+]	Option+]	
Previous suggestion	Alt+[	Option+[	

**Supported IDEs:** VS Code, Visual Studio, JetBrains (IntelliJ, PyCharm, WebStorm, Rider, GoLand, etc.), Neovim, Vim, Xcode, Azure Data Studio.

#### 3.4.2 2. Copilot Chat

Conversational interface for complex interactions.

**Memorize****Chat Shortcuts:**

- **Open Chat Panel:** Ctrl+Alt+I (Win) / Cmd+Option+I (Mac)
- **Inline Chat:** Ctrl+I (Win) / Cmd+I (Mac)

**Slash Commands:**

Command	Purpose
/explain	Explain selected code
/fix	Suggest fixes for errors
/tests	Generate unit tests
/doc	Generate documentation
/optimize	Suggest performance improvements
/clear	Clear chat history

**3.4.3 3. Copilot CLI**

Terminal-based interaction via the GitHub CLI.

**Commands:**

- `gh copilot explain` – Explain a command or concept
- `gh copilot suggest` – Get command suggestions

**Use Cases:** Shell command help, Git operations, DevOps scripting, understanding unfamiliar CLI tools.

**Installation:** Requires GitHub CLI (`gh`) with Copilot extension.

**3.5 Knowledge Bases (Enterprise Only)**

**Definition:** Indexed collections of your organization's code that Copilot uses to provide personalized suggestions.

**Can Store:**

- Code snippets and patterns
- Best practices documentation
- Design patterns and API usage examples
- Team conventions

**Benefits:** Suggestions aligned with your codebase, consistent code style across teams, faster onboarding, reduced context switching.

**Configuration:** Create via GitHub.com organization settings; index specific repositories; configure refresh schedules; set access permissions.

**Exam Tip**

Know exact premium request limits, which features are in which plans, and that IP indemnity is Business/Enterprise **ONLY**.

## 4 Domain 3: How GitHub Copilot Works and Handles Data (15%)

This domain covers the technical architecture of Copilot's data pipeline—how your code becomes a suggestion.

### 4.1 The Four-Stage Data Pipeline



Figure 1: The four-stage Copilot data pipeline

#### 4.1.1 Stage 1: IDE Context Gathering

##### What Copilot Collects:

- Current file content (primary context)
- Cursor position and surrounding code
- Open tabs (neighboring files)
- File paths and repository structure
- Repository URLs
- Chat history (for Chat interactions)

##### Key Concept

###### Context Priority:

1. Current file (highest priority)
2. Open tabs in editor
3. Recently edited files
4. File path semantics

**Tip:** Open related files to improve suggestion quality (e.g., models and interfaces).

#### 4.1.2 Stage 2: Proxy Server Processing

##### Security Filters Applied:

- Authentication & authorization verification
- Rate limiting enforcement
- PII (Personally Identifiable Information) detection
- Toxic language screening
- Relevance checks
- Jailbreak attempt prevention

#### 4.1.3 Stage 3: LLM Processing

**Infrastructure:** Hosted in GitHub-owned Azure tenants. Multiple models available (GPT-4, Claude, and others—varies by plan).

**Processing:** Prompt assembled from context → model generates completion → multiple candidates may be generated → ranking determines best suggestion.

#### 4.1.4 Stage 4: Post-Processing

**Quality Checks:** Syntax validation, code quality assessment, security pattern detection.

**Public Code Filter:**

- Compares against indexed public repositories
- Threshold: **150+ characters** matching
- Whitespace stripped before comparison
- Matching suggestions blocked
- Approximately **1%** of suggestions match public code

#### 4.2 Data Retention Policies

Data Type	Individual Plans	Business/Enterprise
Prompts	May be used for training (opt-out)	<b>NEVER</b> used; discarded after response
User engagement data	2 years	2 years
Chat history	28 days	28 days
Audit logs	N/A	Available

Table 4: Data retention by plan type

#### 4.3 Public Code Filter Details

##### Memorize

##### Public Code Filter (Exam Favorite):

- **Threshold:** 150+ characters
- **Comparison:** Whitespace stripped before matching
- **Match Rate:** ~1% of suggestions
- **Configuration:** Enable/disable per organization
- **Purpose:** Prevent accidental inclusion of copyrighted/GPL code

**Why 150 characters?** Short snippets are often generic (imports, loops); longer matches more likely indicate copied code. This balances usability with IP protection.

#### 4.4 Context Window Limitations

- Copilot can only “see” a limited amount of code
- Cannot understand your entire codebase
- Suggestions may conflict with code in other files
- Recent changes in closed files not considered

**Mitigation:** Open relevant files in editor tabs, add descriptive comments, use clear function signatures, provide context in Chat prompts.

#### 4.5 LLM Limitations

- **Outdated training data:** May not know newest APIs or frameworks
- **Pattern matching only:** Predicts text, doesn’t “understand” code
- **Hallucinations:** May invent non-existent APIs or functions
- **Math:** Cannot reliably perform calculations

**Exam Tip**

Know the 150-character threshold for the public code filter, the four pipeline stages, and that Business/Enterprise prompts are **NEVER** used for training.

## 5 Domain 4: Prompt Crafting and Prompt Engineering (9%)

### 5.1 Context Sources for Prompts

**Memorize**

Copilot builds prompts from **five sources** (priority order):

1. **Current file** – Primary context; content before/after cursor, language, imports
2. **Open tabs** – Neighboring files; open 1–3 related files for best results
3. **File paths** – Directory names provide semantic hints (e.g., `/src/auth/`)
4. **Comments** – Natural language descriptions; write intent *before* code
5. **Chat history** – Previous exchanges inform responses

### 5.2 Prompting Best Practices

#### 1. Be Specific

*Bad:* “make a function”

*Good:* “Create a TypeScript function that validates email addresses using regex, returns boolean, handles edge cases like plus addressing”

#### 2. Provide Context

Include what you’re accomplishing, constraints, expected I/O, error handling needs.

#### 3. Break Down Tasks

Instead of “Build a user authentication system,” ask separately for the user model, password hashing, login endpoint, and session management.

#### 4. Iterate and Refine

Add constraints: “but without external libraries.” Clarify: “I meant for browser, not Node.js.”

### 5.3 Prompting Techniques

Technique	Examples	Best For
Zero-shot	0	Simple, common tasks; standard library operations
One-shot	1	Establishing a format; template following
Few-shot	2–5	Complex transformations; consistency-critical tasks
Chain-of-thought	N/A	Complex reasoning; debugging; architecture decisions

Table 5: Prompting techniques comparison

#### 5.3.1 Zero-Shot Prompting

No examples provided—rely on Copilot’s training data.

```
// Validate email address
function validateEmail(email) {
  // Copilot generates implementation
}
```

**Pros:** Fast, no setup.    **Cons:** May not match your specific style.

### 5.3.2 One-Shot Prompting

Single example guides the format/style.

```
// add(1, 2) returns 3
// subtract(a, b)
function subtract(a, b) {
  return a - b; // Copilot follows the pattern
}
```

**Pros:** More predictable.    **Cons:** Single example may not cover edge cases.

### 5.3.3 Few-Shot Prompting

Multiple examples (2–5) establish a clear pattern.

```
// "hello" -> "HELLO"
// "World" -> "WORLD"
// "test" -> ?
// Result: "TEST"
```

**Pros:** Most reliable for pattern matching.    **Cons:** Uses more context tokens.

### 5.3.4 Chain-of-Thought Prompting

Break complex problems into reasoning steps using trigger phrases:

- “Think step by step”
- “Let’s break this down”
- “Explain your reasoning”
- “Walk me through the logic”

#### Key Concept

##### The Trade-Off:

More examples = more predictable output, but also more context tokens used.

**Balance:** Simple tasks → zero-shot; format guidance → one-shot; complex patterns → few-shot; reasoning → chain-of-thought.

#### Exam Tip

Know the difference between zero-shot, one-shot, and few-shot prompting. Understand when to use chain-of-thought for complex reasoning tasks.

## 6 Domain 5: Developer Use Cases for AI (14%)

## 6.1 Eight Key Productivity Use Cases

### Memorize

1. Learning new languages and frameworks
2. Language translation (code conversion)
3. Context switching
4. Writing documentation (`/doc`)
5. Sample data generation
6. Legacy code modernization
7. Debugging code (`/fix`)
8. Code refactoring

### 6.1.1 1. Learning New Languages and Frameworks

Copilot explains unfamiliar syntax, suggests idiomatic patterns, provides language-specific best practices, and translates concepts from known languages.

**Tip:** Use `/explain` on existing code when learning.

### 6.1.2 2. Language Translation

Converts code between programming languages, handles syntax differences, adapts naming conventions, and translates idioms appropriately.

### 6.1.3 3. Context Switching

Maintains mental model across files, remembers conversation context, reduces cognitive load, and bridges between related components.

**Tip:** Keep related files open when switching contexts.

### 6.1.4 4. Writing Documentation

Generates docstrings/JSDoc, README content, inline comments, and API documentation via the `/doc` command.

**Supported formats:** JSDoc (JS/TS), Docstrings (Python), XML comments (C#), JavaDoc (Java).

### 6.1.5 5. Sample Data Generation

Creates realistic test fixtures, mock data, and seed data for databases. Respects locale conventions.

### 6.1.6 6. Legacy Code Modernization

Refactors old patterns to modern standards: callbacks to `async/await`, deprecated API updates, jQuery to vanilla JS, etc.

### 6.1.7 7. Debugging Code

Explains error messages, identifies root causes, suggests fixes, and traces logic flow via the `/fix` command.

### 6.1.8 8. Code Refactoring

Improves code structure, reduces duplication, enhances readability, and applies design patterns.



## 6.2 SDLC Integration

Phase	Copilot Assistance
Planning	User stories, acceptance criteria, technical specifications
Coding	Inline suggestions, chat assistance, code completion
Testing	Test generation ( <code>/tests</code> ), edge cases, mock data
Review	PR summaries (Enterprise), explanations, security analysis
Deployment	Script generation, CI/CD pipelines, infrastructure code

Table 6: Copilot across the Software Development Lifecycle

## 6.3 Productivity API (Enterprise)

**Purpose:** Measure Copilot's impact on development efficiency.

**Metrics:** Acceptance rates, time saved, language-specific usage, team-wide statistics, trends over time.

**Use Cases:** Justify investment, identify training needs, optimize workflows.

### Exam Tip

Know all eight use cases and be able to identify which applies to a given scenario. Understand SDLC integration points.

## 7 Domain 6: Testing with GitHub Copilot (9%)

### 7.1 Test Generation Capabilities

#### 7.1.1 Unit Tests

**Command:** `/tests`

**Process:** Select code → use `/tests` → Copilot generates test structure → review and customize → run tests.

**Generated content:** Test file structure, import statements, describe/it blocks, multiple test cases, assertions.

#### 7.1.2 Integration Tests

Copilot understands HTTP methods, request/response patterns, authentication requirements, and error handling scenarios. Generates setup/teardown, API calls, response validation, and error case handling.

#### 7.1.3 Edge Case Tests

Copilot identifies: null/undefined inputs, empty arrays/strings, max/min values, type coercion issues, concurrent access, and resource exhaustion.

#### 7.1.4 Assertion Generation

Generates framework-appropriate matchers, happy path and error case assertions, and type checking assertions.

## 7.2 Key Testing Features

### 1. Learns from Existing Tests

Copilot analyzes your existing tests and matches framework, assertion patterns, naming conventions, setup/teardown structure, and mocking patterns.

**Tip:** Open existing test files to help Copilot understand your team's testing style.

### 2. Edge Case Suggestion

Identifies boundary values (0, -1, MAX\_INT), error conditions, null handling, empty collections, invalid input types.

### 3. Boilerplate Generation

Creates complete test file structure including imports, organization, hooks, mock configuration, and utilities.

### 4. Test Improvement

Analyzes existing tests and suggests missing coverage, additional assertions, better organization, and performance improvements.

## 7.3 SKU Privacy Considerations

Plan Type	Privacy
Individual (Free/Pro/Pro+)	Test code may contribute to training; opt-out available
Business/Enterprise	Test code <b>NEVER</b> used for training; full privacy controls; audit logging

## 7.4 Testing Best Practices with Copilot

1. Start with clear function signatures—well-typed code gets better test suggestions
2. Open existing tests—Copilot learns your testing patterns
3. Review generated tests—don't blindly trust; validate logic
4. Add edge cases manually—Copilot may miss domain-specific cases
5. Maintain test quality—generated tests are starting points, not finished products

### Exam Tip

Know that Copilot learns from existing tests to maintain consistency. Understand the `/tests` command and what it generates.

## 8 Domain 7: Privacy Fundamentals and Context Exclusions (15%)

### 8.1 Content Exclusions

**Purpose:** Prevent specific code from being sent to Copilot servers—proprietary algorithms, security-sensitive code, regulated data (HIPAA, PCI, GDPR), trade secrets, API keys/credentials.

#### 8.1.1 Configuration Levels

Level	Configuration Location
Repository	<code>.github/copilot-exclusions.yml</code>
Organization	GitHub.com → Organization Settings → Copilot

**Example .github/copilot-exclusions.yml:**

```
exclusions:
  - "**/.env"
  - "**/.env.*"
  - "**/secrets/**"
  - "src/proprietary/**"
  - "*.key"
  - "*.pem"
  - "config/credentials.yml"
```

### 8.1.2 Effects of Exclusions

When content is excluded:

1. File content **NOT** sent to Copilot servers
2. No suggestions generated **FROM** excluded files
3. No suggestions generated **WITHIN** excluded files
4. Applies to **BOTH** Chat and inline suggestions
5. Affects **all users** in the organization

**Critical****Critical Limitation (Exam Favorite):**

Exclusions do **NOT** prevent Copilot from suggesting *similar* code that exists in its training data. You exclude your proprietary sorting algorithm—Copilot won't see *your* code, but might still suggest a similar algorithm it learned from public repositories. This is expected behavior, not a security failure.

## 8.2 Duplication Detector Filter (Safeguard)

**Memorize**

- **Threshold:** 150+ characters
- **Comparison:** Whitespace stripped before matching
- **Match Rate:** ~1% of suggestions
- **Configuration:** Per organization (enable/disable)
- **Process:** Generate → compare → strip whitespace → 150+ match → block

### 8.3 IP Indemnity (Business & Enterprise Only)

**What it means:** GitHub legally defends against IP infringement claims covering **unmodified** Copilot suggestions.

**Coverage:** Third-party IP claims, copyright infringement, patent disputes.

**Critical**

Indemnity covers **unmodified suggestions only**. If you substantially modify the suggestion, standard IP rules apply.

### 8.4 GitHub.com Organization Settings

Administrators can configure:

1. **Duplication detection** – Enable/disable public code matching filter

2. **Prompt & suggestion collection** – Enable for model improvement or disable (Business/Enterprise default: disabled)
3. **Copilot access** – Enable/disable for organization; control team-level access
4. **Content exclusions** – Organization-wide exclusion patterns

## 8.5 Troubleshooting

Problem	Cause	Solution
No suggestions for some files	Content exclusion active	Check <code>.github/copilot-exclusions.yml</code> and org settings
Exclusions not applying	Sync delay or YAML error	Validate YAML; wait 5 min; restart IDE
Suggestions completely absent	Rate limit or network	Check GitHub status; verify connectivity
Poor suggestion quality	Insufficient context	Open related files; add comments; add types

Table 7: Common troubleshooting scenarios

### 8.5.1 Systematic Troubleshooting Checklist

1. **File type supported?** – Check language/extension; binary files never get suggestions
2. **Extension enabled?** – Verify Copilot installed; check status bar icon
3. **Content exclusions?** – Review org and repo settings
4. **Network connectivity?** – Copilot requires internet; check firewall
5. **Rate limit status?** – Free plan: 2,000 completions/month
6. **Authentication?** – Verify GitHub account connected; re-authenticate if needed

### 8.5.2 Why Exclusions May Not Apply

1. **YAML syntax error** – Invalid indentation, missing quotes, incorrect patterns
2. **Sync delay** – Changes take up to 5 minutes; restart IDE to force refresh
3. **Pattern mismatch** – File doesn't match; case sensitivity; path separator differences
4. **Scope mismatch** – Repo vs. org exclusion; wrong repository targeted

## 8.6 Ownership of Copilot Outputs

### Key Concept

**Key Principle:** GitHub does **NOT** claim ownership of suggestions. **You** own the code you accept and commit.

**Responsibility Chain:** Copilot suggests → **you** review and accept → **you** commit → **you** are responsible.

### Exam Tip

Know content exclusion configuration, the 150-character duplication threshold, IP indemnity limitations, and systematic troubleshooting steps.

## 9 Quick Reference Tables

## 9.1 Keyboard Shortcuts

Action	Windows	Mac
Accept suggestion	Tab	Tab
Dismiss suggestion	Esc	Esc
Next suggestion	Alt+]	Option+]
Previous suggestion	Alt+[	Option+[
Open Chat Panel	Ctrl+Alt+I	Cmd+Option+I
Inline Chat	Ctrl+I	Cmd+I

## 9.2 Slash Commands

Command	Purpose
/explain	Explain selected code
/fix	Suggest fixes for errors
/tests	Generate unit tests
/doc	Generate documentation
/optimize	Suggest performance improvements
/clear	Clear chat history

## 9.3 Plan Pricing and Premium Requests

Plan	Price	Premium Req./Month	Overage
Free	\$0	50	N/A
Pro	\$10/mo	300	\$0.04
Pro+	\$39/mo	1,500	\$0.04
Business	\$19/user/mo	300/user	\$0.04
Enterprise	\$39/user/mo	1,000/user	\$0.04

## 9.4 Data Retention Summary

Data Type	Retention
User engagement data	2 years
Chat history	28 days
Prompts (Individual)	May be used for training
Prompts (Business/Ent.)	Discarded after response

## 9.5 Responsible AI Principles

#	Principle	Keyword
1	Fairness	Equitable
2	Reliability & Safety	Predictable
3	Privacy & Security	Protected
4	Inclusiveness	Everyone
5	Transparency	Explainable
6	Accountability	Ownership

## 9.6 Context Sources (Priority Order)

Priority	Source
1 (highest)	Current file
2	Open tabs
3	File paths
4	Comments
5	Chat history

## 9.7 Duplication Detection

Setting	Value
Threshold	150+ characters
Whitespace	Stripped before comparison
Match Rate	~1% of suggestions
Configurable	Per organization

# 10 Exam Preparation Checklist

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## 10.1 Domain 1: Responsible AI (7%)

- ☐ Memorize all 6 principles
- ☐ Know practical applications of each
- ☐ Understand AI limitations
- ☐ Know mitigation strategies
- ☐ Remember: Developer is accountable

## 10.2 Domain 2: Plans and Features (31%)

- ☐ Memorize all 5 plans and prices
- ☐ Know premium request limits exactly
- ☐ Understand feature differences
- ☐ Know IP indemnity is Business/Enterprise only
- ☐ Know Knowledge Bases are Enterprise only
- ☐ Memorize keyboard shortcuts
- ☐ Know all slash commands
- ☐ Understand CLI commands

### 10.3 Domain 3: Data Pipeline (15%)

- ☐ Know 4 pipeline stages
- ☐ Understand context gathering
- ☐ Know proxy filters
- ☐ Remember 150-char duplication threshold
- ☐ Know data retention periods
- ☐ Understand Business/Enterprise never trains

### 10.4 Domain 4: Prompt Engineering (9%)

- ☐ Know 5 context sources
- ☐ Understand 4 best practices
- ☐ Know zero/one/few-shot differences
- ☐ Understand chain-of-thought prompting
- ☐ Know when to use each technique

### 10.5 Domain 5: Developer Use Cases (14%)

- ☐ Memorize all 8 use cases
- ☐ Know SDLC integration points
- ☐ Understand Productivity API
- ☐ Know Copilot limitations

### 10.6 Domain 6: Testing (9%)

- ☐ Know `/tests` command
- ☐ Understand test types generated
- ☐ Know Copilot learns from existing tests
- ☐ Understand SKU privacy differences
- ☐ Know editor config options

### 10.7 Domain 7: Privacy and Exclusions (15%)

- ☐ Know exclusion configuration locations
- ☐ Understand exclusion effects
- ☐ Remember exclusion limitation
- ☐ Know duplication detection details
- ☐ Understand IP indemnity scope
- ☐ Master troubleshooting steps

### 10.8 Exam Day Preparation

- ☐ Get good sleep the night before
- ☐ Arrive 15 minutes early
- ☐ Bring valid ID
- ☐ Review quick reference tables
- ☐ Remember: 2 minutes per question average
- ☐ Flag difficult questions and return

## 11 Study Resources

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## 11.1 Official Resources

### Microsoft Learn:

- GitHub Copilot Fundamentals (Part 1 & 2)
- Responsible AI with GitHub Copilot
- Practice Assessment

### GitHub Documentation:

- <https://docs.github.com/copilot> – Main documentation
- Subscription plans, data handling, features by plan

### GitHub Skills:

- <https://skills.github.com> – Hands-on exercises

## 11.2 Practice Recommendations

1. Use Copilot daily for at least 2 weeks before the exam
2. Try all interaction methods (inline, chat, CLI)
3. Experiment with different prompting techniques
4. Test content exclusions in a repository
5. Review audit logs (if on Business/Enterprise)

## 11.3 Exam Registration

Property	Details
Website	<a href="https://learn.microsoft.com/credentials">https://learn.microsoft.com/credentials</a>
Cost	\$99 USD
Duration	120 minutes
Questions	60
Format	Multiple choice, scenario-based
Proctoring	Online or test center

## 12 Final Notes

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### 12.1 Key Exam Strategies

1. **Read questions carefully** – Many questions have subtle differences in answer choices
2. **Eliminate wrong answers** – Often 2 answers are clearly wrong; focus on the remaining 2
3. **Watch for absolutes** – “Always,” “never,” “only” often indicate wrong answers
4. **Scenario questions** – Identify what’s being asked *before* looking at answers
5. **Time management** – 2 minutes per question; flag and move on if stuck
6. **Trust your preparation** – First instinct is often correct; don’t second-guess

### 12.2 Common Exam Traps

1. Confusing IP indemnity availability (Business/Enterprise **ONLY**)
2. Wrong premium request limits
3. Confusing exclusion effects vs. limitations
4. Wrong keyboard shortcuts



5. Mixing up plan features
6. Forgetting developer accountability

**Good luck on your GitHub Copilot Certification Exam!**

You've studied all 7 domains. You know the exact numbers. You understand the principles, not just the facts. You can apply knowledge to scenarios.