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// Main function to process user requests
function processUserRequest(userInput) {
  // Track which knowledge domains might be relevant to this
  request
  const relevantDomains = identifyRelevantDomains(userInput);

  // Ensure relevant files are decompressed and available
  for (const domain of relevantDomains) {
    // Decompress the knowledge file if needed
    accessFile(domain);

    // Also decompress its cache file
    accessFile(`${domain}_cache`);
  }

  // Process the request using the cognitive map algorithm
  const response = applyAlgorithm(userInput, relevantDomains);

  // After processing, compress files that are no longer needed
  if (this.file_management.auto_compress_low_priority) {
    setTimeout(compressAllInactive, 10000); // Run after 10
seconds
  }

  return response;
}

// Function to identify which knowledge domains are relevant
to a user input
function identifyRelevantDomains(userInput) {

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const domains = [];
const input = userInput.toLowerCase();

// Check for keywords related to each domain
// General vocabulary is always relevant
domains.push("general_vocabulary");

// Check for command-related keywords
if (input.includes("turn on") || input.includes("open") ||
input.includes("start") ||
    input.includes("activate") || input.includes("set")) {
    domains.push("commands");
}

// Check for TikTok-related keywords
if (input.includes("tiktok") || input.includes("video") ||
input.includes("post") ||
    input.includes("trending") || input.includes("viral")) {
    domains.push("tiktok_terms");
}

// Check for video editing keywords
if (input.includes("edit") || input.includes("trim") ||
input.includes("cut") ||
    input.includes("transition") || input.includes("effect")) {
    domains.push("editorial_optimization");
    domains.push("video_terms");
}

// Check for content creation keywords
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if (input.includes("create") || input.includes("write") ||  
input.includes("post") ||  
    input.includes("caption") || input.includes("content")) {  
    domains.push("content_generation");  
}
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// Check for text analysis keywords  
if (input.includes("analyze") || input.includes("summarize") ||  
input.includes("extract") ||  
    input.includes("key points") || input.includes("main idea")) {  
    domains.push("text_analysis");  
}
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// Check for prediction keywords  
if (input.includes("predict") || input.includes("suggest") ||  
input.includes("recommend") ||  
    input.includes("what should") || input.includes("will")) {  
    domains.push("predictive_terms");  
}
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// Check for emotional keywords  
if (input.includes("feel") || input.includes("happy") ||  
input.includes("sad") ||  
    input.includes("angry") || input.includes("excited")) {  
    domains.push("sentiment_terms");  
}
```

```
// Check for programming keywords  
if (input.includes("code") || input.includes("program") ||  
input.includes("function") ||
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    input.includes("javascript") || input.includes("python")) {  
    domains.push("code_generation");  
}
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// Check for mental health keywords  
if (input.includes("anxiety") || input.includes("depression") ||  
input.includes("stress") ||  
    input.includes("therapy") || input.includes("mental health")) {  
    domains.push("mental_health_terms");  
}
```

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// Check for first aid keywords  
if (input.includes("injury") || input.includes("hurt") ||  
input.includes("emergency") ||  
    input.includes("bandage") || input.includes("pain")) {  
    domains.push("first_aid");  
}
```

```
// Check for automotive keywords  
if (input.includes("car") || input.includes("engine") ||  
input.includes("vehicle") ||  
    input.includes("repair") || input.includes("mechanic")) {  
    domains.push("automotive_mechanics");  
}
```

```
// Check for cooking keywords  
if (input.includes("cook") || input.includes("recipe") ||  
input.includes("food") ||  
    input.includes("bake") || input.includes("ingredient")) {  
    domains.push("cooking_culinary");  
}
```

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}

// Check for travel keywords
if (input.includes("travel") || input.includes("trip") ||
input.includes("flight") ||
    input.includes("hotel") || input.includes("vacation")) {
    domains.push("travel_geography");
}

// Check for financial keywords
if (input.includes("money") || input.includes("budget") ||
input.includes("invest") ||
    input.includes("finance") || input.includes("save")) {
    domains.push("personal_finance");
}

// If no specific domain was identified, use the most common
ones
if (domains.length === 1) { // Only general_vocabulary
    domains.push("commands"); // Basic commands are generally
useful
    domains.push("content_generation"); // Helpful for
generating responses
}

return domains;
}
```