Prompt for Financial Agent Generation

OBJECTIVE: Create a financial AI agent (financial_agent.py) that uses function calling to answer user questions with three specific financial calculation tools.

REQUIRED TOOLS TO INTEGRATE:

- calculate_compound_interest()
- calculate_monthly_payment()
- project_investment_growth()

Note: These tools have already been created. Location: `"D:\Ongil\pythonR\course_content\cline\projects\project3\financial_calculatorD:\Ongil\pythonR\course_content\cline\projects\project3\financial_calculator"`

REFERENCE FILES:

- @financial_agent_example.py.txt (workflow structure example)
- @updated_api_utils.py.txt (dependencies)
- @api_utils.py.txt (dependencies)
- @tests.py (function usage examples)
- @README.md (function documentation)

TECHNICAL REQUIREMENTS:

1. Use OpenRouter API (credentials in .env file "OPENROUTER_API_KEY" and "OPENROUTER_BASE_URL")
2. Implement proper error handling for:
    - API failures
    - Invalid user inputs
    - Tool execution errors
    - Network issues
3. Follow the workflow pattern from financial_agent_example.py.txt
4. Include input validation for all financial calculations
5. Provide clear user feedback for errors and results
6. Detailed the system prompt so it can select the tool effctively
7. In the output, also show which tool it has selected

AGENT BEHAVIOR:

- Analyze user questions to determine which tool(s) to use
- Validate inputs before calling tools
- Handle multiple tool calls if needed
- Provide clear, formatted responses
- Gracefully handle and explain errors

Some Questions to Test Financial Agent

Monthly payment question:

- What's my monthly payment on a $10,000 loan at 6% for 6 months?
- Calculate car loan payment for $25,000 at 6% over 5 years

Compound interest question

- How much will $5,000 grow in 15 years at 6% interest?
- What's the future value of $25,000 at 8% for 10 years?

Investment growth projector question

- If I invest $500 monthly for 25 years at 8% return, how much will I have?
- Project retirement savings: $50,000 initial, $1,000 monthly, 7% return, 30 years?