

# Sample Prompt

## CHAPTER-05

### MS Office related solution from DeepSeek

#### 03 Generate custom formulas and functions using VBA code

##### Tips for Better Prompt Generation

1. **Be Specific** – Instead of *"Write a VBA function for calculations,"* use *"Write a VBA function to calculate CAGR with inputs for beginning value, ending value, and periods."*
2. **Include Input/Output Examples** – *"Input: A1:A10; Output: Sum of even numbers only."*
3. **Specify Error Handling Needs** – *"Include error handling for invalid inputs."*
4. **Mention Performance Requirements** – *"Optimize for large datasets (100,000+ rows)."*
5. **Ask for Explanations** – *"Provide comments explaining each step."*
6. **Request Alternative Approaches** – *"Show two versions: one using loops, another using arrays."*
7. **Clarify Compatibility** – *"Ensure it works in Excel 2016 and later."*
8. **Ask for Testing Suggestions** – *"Provide sample data to test the function."*

Here's a comprehensive 100 list of prompts to help you generate custom formulas and functions in Excel using VBA.

### **Basic VBA Function Creation**

1. *"Write a VBA function to calculate the weighted average of a range in Excel."*
2. *"Create a custom VBA function that checks if a cell contains a specific substring and returns TRUE or FALSE."*
3. *"Generate a VBA function to extract the first word from a text string in Excel."*
4. *"Write a VBA function to convert a date into a fiscal quarter (e.g., Q1, Q2)."*
5. *"Create a VBA function that removes all special characters from a string."*

### **Mathematical & Statistical Functions**

6. *"Write a VBA function to calculate the geometric mean of a range."*
7. *"Generate a VBA function to compute the moving average of the last N values in a column."*
8. *"Create a VBA function to find the median of a dynamic range."*
9. *"Write a VBA function to calculate compound annual growth rate (CAGR)."*
10. *"Generate a VBA function to round numbers to the nearest multiple of 5."*

### **Text Manipulation Functions**

11. *"Write a VBA function to reverse a text string (e.g., 'Excel' → 'lecxE')."*
12. *"Create a VBA function to count the number of words in a cell."*
13. *"Generate a VBA function to convert text to Proper Case (e.g., 'john doe' → 'John Doe')."*
14. *"Write a VBA function to extract all numbers from a mixed string."*
15. *"Create a VBA function to replace multiple spaces with a single space."*

### **Date & Time Functions**

16. *"Write a VBA function to calculate the number of working days between two dates (excluding weekends)."*
17. *"Generate a VBA function to add business days to a date (excluding holidays)."*
18. *"Create a VBA function to check if a given year is a leap year."*
19. *"Write a VBA function to convert seconds into 'HH:MM:SS' format."*
20. *"Generate a VBA function to find the last day of the month for a given date."*

### **Lookup & Reference Functions**

21. *"Write a VBA function to perform a case-sensitive VLOOKUP."*
22. *"Create a VBA function to return all matching values from a column (like a multi-result lookup)."*
23. *"Generate a VBA function to find the closest match to a given number in a range."*

24. *"Write a VBA function to perform a wildcard search in a range."*

25. *"Create a VBA function to get the column letter from a column number (e.g., 1 → 'A')."*

### **Logical & Conditional Functions**

26. *"Write a VBA function to return 'Yes' if a value is above average, else 'No!'"*

27. *"Generate a VBA function to check if a cell contains any of the values from a list."*

28. *"Create a VBA function to evaluate multiple conditions and return a custom output."*

29. *"Write a VBA function to return the first non-empty cell in a range."*

30. *"Generate a VBA function to check if a range is sorted in ascending order."*

### **Financial & Business Functions**

31. *"Write a VBA function to calculate loan payments (PMT) with extra parameters."*

32. *"Create a VBA function to compute Net Present Value (NPV) with irregular cash flows."*

33. *"Generate a VBA function to calculate depreciation using the double-declining balance method."*

34. *"Write a VBA function to convert currency based on a dynamic exchange rate table."*

35. *"Create a VBA function to compute the internal rate of return (IRR) for non-periodic cash flows."*

### **Array & Range Operations**

36. *"Write a VBA function to sum every alternate cell in a range."*

37. *"Generate a VBA function to concatenate all values in a range with a delimiter."*

38. *"Create a VBA function to return the unique values from a column."*

39. *"Write a VBA function to transpose a range into a single column."*

40. *"Generate a VBA function to find the intersection of two ranges."*

### **Error Handling & Data Validation**

41. *"Write a VBA function to check if a cell contains an error (#N/A, #VALUE, etc.) and return a custom message."*

42. *"Create a VBA function to validate if a string is a valid email address."*

43. *"Generate a VBA function to check if a value exists in a given list (case-insensitive)."*

44. *"Write a VBA function to return a default value if a cell is blank."*

45. *"Create a VBA function to count how many cells in a range meet multiple criteria."*

### **File & Workbook Operations**

46. *"Write a VBA function to check if a file exists in a specified folder."*

47. *"Generate a VBA function to extract the file name from a full path."*

48. *"Create a VBA function to list all sheets in a workbook as a comma-separated string."*
49. *"Write a VBA function to return the last modified date of a file."*
50. *"Generate a VBA function to check if a workbook is open."*

### **Advanced Custom Functions**

51. *"Write a VBA function to generate a random password with specified length and character types."*
52. *"Create a VBA function to perform a fuzzy text match (e.g., 'Jon' ≈ 'John')."*
53. *"Generate a VBA function to convert a number into words (e.g., 123 → 'One Hundred Twenty-Three')."*
54. *"Write a VBA function to calculate the distance between two ZIP codes using an API."*
55. *"Create a VBA function to scrape data from a website and return it to Excel."*

### **Optimization & Performance**

56. *"Write a VBA function to speed up array processing by avoiding loops where possible."*
57. *"Generate a VBA function with error handling to prevent crashes in large datasets."*
58. *"Create a VBA function that uses dictionaries for faster lookups."*
59. *"Write a VBA function that minimizes recalculation time in volatile formulas."*
60. *"Generate a VBA function to disable screen updating while executing for better performance."*

### **User-Defined Aggregations**

61. *"Write a VBA function to sum only visible (filtered) cells in a range."*
62. *"Create a VBA function to count cells based on background color."*
63. *"Generate a VBA function to average every Nth cell in a column."*
64. *"Write a VBA function to find the most frequently occurring value in a range (mode)."*
65. *"Create a VBA function to calculate the standard deviation ignoring zeros."*

### **Custom Data Formatting**

66. *"Write a VBA function to format a number as a fraction (e.g., 0.5 → '1/2')."*
67. *"Generate a VBA function to display a number in scientific notation with custom precision."*
68. *"Create a VBA function to convert seconds into a readable format (e.g., '2h 30m')."*
69. *"Write a VBA function to add a thousand separator without changing the number format."*
70. *"Generate a VBA function to format a phone number into (XXX) XXX-XXXX."*

### **Multi-Sheet & Workbook Functions**

71. *"Write a VBA function to sum values across multiple sheets with the same structure."*

72. *"Create a VBA function to reference a cell in a closed workbook."*
73. *"Generate a VBA function to pull data from another workbook dynamically."*
74. *"Write a VBA function to check if a sheet exists in a workbook."*
75. *"Create a VBA function to consolidate data from multiple ranges into one array."*

### **Custom Triggers & Events**

76. *"Write a VBA function that runs automatically when a cell value changes."*
77. *"Generate a VBA function that logs timestamp entries when data is modified."*
78. *"Create a VBA function to validate data entry before allowing it in a cell."*
79. *"Write a VBA function to highlight duplicates in real-time."*
80. *"Generate a VBA function to send an email alert when a condition is met."*

### **Integration with Other Applications**

81. *"Write a VBA function to fetch stock prices using an API."*
82. *"Create a VBA function to generate a QR code from a given text."*
83. *"Generate a VBA function to interact with Outlook and send an email from Excel."*
84. *"Write a VBA function to export a range as a PDF automatically."*
85. *"Create a VBA function to import JSON data into Excel."*

### **Miscellaneous Advanced Functions**

86. *"Write a VBA function to generate a random alphanumeric ID of a given length."*
87. *"Create a VBA function to perform a linear regression and return coefficients."*
88. *"Generate a VBA function to calculate the Fibonacci sequence up to N terms."*
89. *"Write a VBA function to solve a quadratic equation ( $ax^2 + bx + c = 0$ )."*
90. *"Create a VBA function to implement a Caesar cipher (text encryption)."*

### **Debugging & Utility Functions**

91. *"Write a VBA function to list all named ranges in a workbook."*
92. *"Generate a VBA function to print the call stack for debugging purposes."*
93. *"Create a VBA function to measure the execution time of another function."*
94. *"Write a VBA function to check for broken links in formulas."*
95. *"Generate a VBA function to reset all worksheet used ranges for optimization."*

### **AI & Machine Learning Related**

96. *"Write a VBA function to classify text using a simple keyword-based AI model."*
97. *"Create a VBA function to predict values using linear regression from a dataset."*

98. *"Generate a VBA function to implement a basic sentiment analysis on text."*
  99. *"Write a VBA function to cluster data using k-means (simplified version)."*
  100. *"Create a VBA function to scrape and analyse Twitter trends in Excel."*
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