**Stepwise Refinement Approach**

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**Explanation**

The Check Writer Program was designed to convert a numeric dollar amount into its equivalent in words, formatted in a way similar to a written check. This program involves several key steps:

1. **Input Handling**:
   * The program begins by prompting the user to enter a numeric dollar amount. It includes validation to ensure the input is a valid positive number, providing user-friendly error messages if the input is invalid.
2. **Validation**:
   * The program checks whether the input is valid (i.e., positive and numeric). Invalid inputs result in error messages and prompt the user to try again.
3. **Conversion to Words**:
   * Using the num2words library, the numeric dollar amount is converted into words, formatted specifically for US dollars. This ensures a readable and professional output.
4. **Output Formatting**:
   * The program formats the output to include placeholders for "Pay to the order of" and "Memo," while displaying the amount in words.
5. **UML Diagram**:
   * The UML Activity Diagram visually represents the program's logical flow, from input to output, including validation and error handling. This diagram ensures clarity in understanding the program's structure and functionality.

The program demonstrates the importance of modular programming, with each functionality encapsulated in its function (input\_numeric\_amount, validate\_input, convert\_to\_words, format\_output). This modular approach ensures the program is easy to read, debug, and extend in the future.

**References**

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