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Design.pdf Draft - Pseudocode

Check Command-Line Arguments:

If number of arguments > 2:

Exit

Determine Input Source:

If number of arguments == 1:

Set input source to standard input

Else:

Try to open the file specified in the argument

If file cannot be opened:

Exit

Initialize Variables

Allocate a buffer for 16 bytes

Set offset to 0

Loop:

Read up to 16 bytes into the buffer

If EOF:

Break loop

Print the Offset

Format and print the current offset in hexadecimal

Print Hexadecimal Column:

For each byte in the buffer:

If byte is valid:

Format and print as two-digit hexadecimal

Else:

Print two spaces

Print additional spaces for alignment after every 16 bytes

Print ASCII Column

For each byte in the buffer:

If the byte is valid and printable:

Print the corresponding ASCII character

Else:

Print a period

Print a Newline

Move to the next line of output

Increment the Offset

Add 16 to the offset until EOF

Clean Up:

Free the allocated buffer

If input source is a file:

Close the file