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Design.pdf - Pseudocode

Check Command-Line Arguments:

If number of arguments > 1:

Exit

Set Input Source:

Set the input to stdin

If a second command-line argument is provided, open the file in argv[1]

Handle File Opening Failure

If file cannot be opened, exit

Initialize Variables

Define a buffer of size 16 bytes

Define bytes_read to track how many bytes are read

Define offset to store the current offset in the file

Define buffer_index to track the number of bytes stored in the buffer

Read the File

While there are bytes left to read:

Read bytes into the buffer, indexing the buffer

If the buffer is full:

Print the offset in hexadecimal format

Print the contents of the buffer in hexadecimal

Print the ASCII representation:

 If byte is printable, print

 If not, print a dot

Increment the offset by 16 bytes

Reset the buffer index to 0

Handle Remaining Bytes

If there are <16 bytes left in the buffer:

 Print the offset in hexadecimal

 Print the available bytes in hexadecimal

 Print the ASCII of the remaining bytes

Clean Up

If the input is from a file, close the file