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Lab 1: Copying Files
COEN 146L - Computer Networks

Goal: Write a C program that copies files by using both system and function calls. The source and destination files are provided by the user. Another option is to repeatedly copy a file to a destination file in order to gauge how quickly the function performs. In this case, the user specifies the maximum file size and step size.

- The program allows the user to copy a file from one location to another

- It has the option to measure the performance of the file copy

- Uses the C standard library for file operations and the time library for measuring the time taken to copy the file

- First prompts the user to select an option: 1 for file copy, or 2 for file copy with performance measurement

- The application will ask for the names of the source and destination files, open them, and use the copier() function to copy the file from the source to the destination if the user chooses option 1.

- The application will also ask for the maximum file size and the step size to increase the file size if the user chooses option 2. By increasing the file size step by step, copying the file, and monitoring the time it takes to duplicate the file, the performance of the file copy is measured using these inputs. This procedure is repeated until the maximum file size is achieved.

- The program will then output the time taken to copy the file at each file size increment

- This can be useful for measuring the performance of the file copy under different scenarios and file sizes.
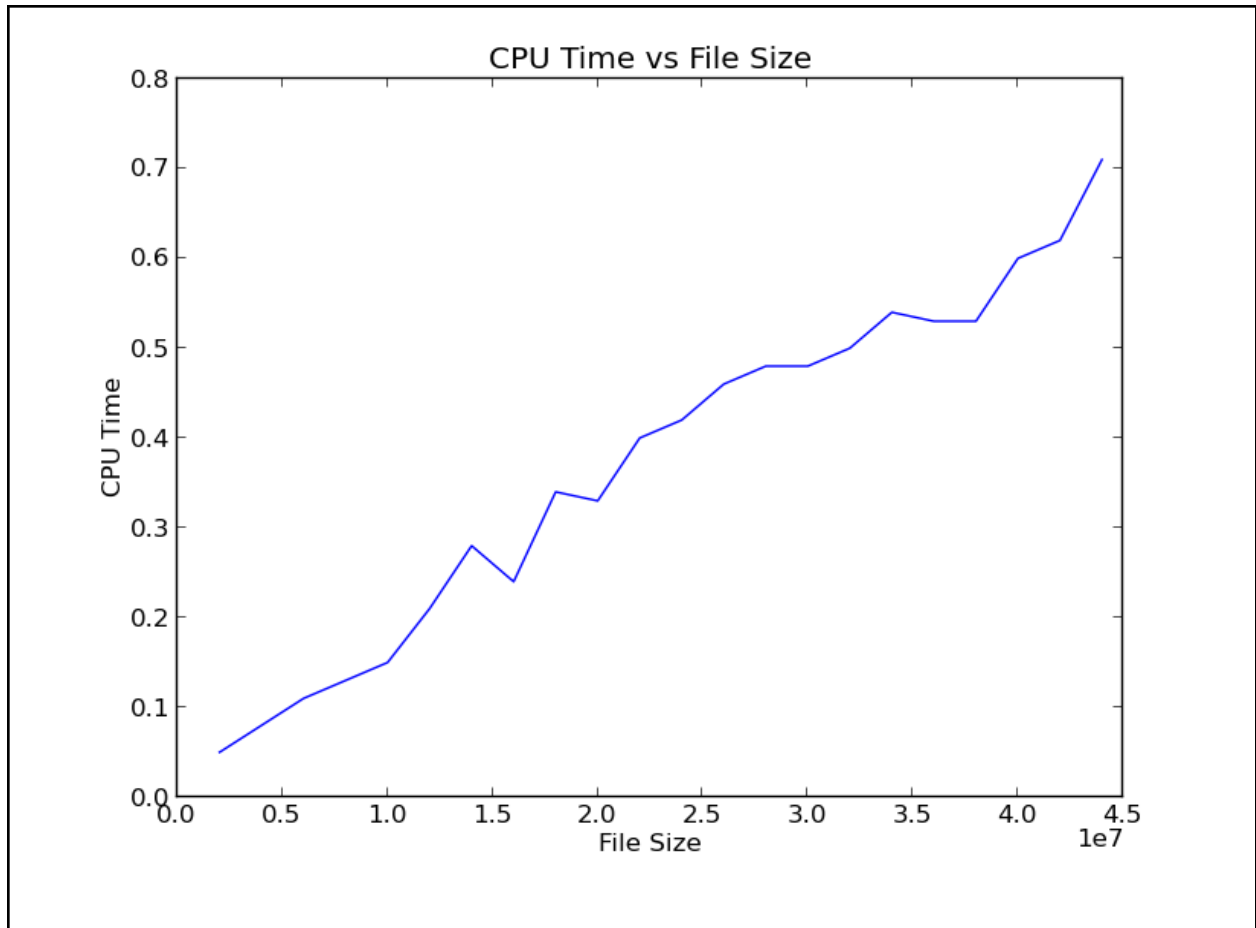
Conclusion: Even though there may occasionally be transmission and propagation delays, response time and CPU use for file transfers grow linearly as file size and quantity stay constant.