Project:
Instruction Set

Directions:

For your computer program, you will need to create an instruction set which is a list of all the instructions for your computer. This list will begin with the format(s) of instructions for your computer; i.e. it will provide the order and number of bits for each component of an instruction. Your instruction set may have multiple formats, but it will be best to use only one. Afterwards, you must list all of the opcodes. They must be listed in binary and their must be a description of what operation each of them performs. Just remember an instruction must not exceed 32 bits. Likewise, remember any constraints mentioned before must be maintained.

Last, create a header file named "Helper". Within the file, define the bool function named `ProgramConverter()`. It will either receive the name of a file or a file stream reference of a file that represents a machine language program written in hexadecimal as a parameter. It should create a new file and write the conversion of the hexadecimal code to binary code in it. If the program successfully converts the entire file, it will return true; otherwise, it will return false. The hexadecimal string must have a length of 4 and each string should be on its own line.