Problem EX-2 (5 parts)  

**MIPS Assembly Language**

**Part A:** Write a MIPS program fragment that computes “$-17 \cdot (B - C)$” and puts the result in register $6$. Assume $B$ and $C$ are in registers $1$ and $2$, respectively. Use a minimum number of instructions and registers. You may reuse registers $1$ and $2$.

**Part B:** Suppose $A$ is stored in memory location $1020$ and $B$ is stored in memory location $1024$. Write a MIPS program fragment that computes “$256 \cdot (A + B/16)$” and stores the result at memory location $1028$. Use a minimum number of instructions and registers.

**Part C:** Write a MIPS program fragment to jump to address $0xABCD1234$.

**Part D:** Suppose an image processing system stores a $512 \times 256$ pixel image in memory. Each pixel is represented by 8 bits and they are stored contiguously in memory. How much memory (in kilobytes) does this require? How many bits are needed to address 1 pixel?

**Part E:** Write a MIPS fragment that exchanges two registers ($1$ and $2$) without using any other registers or memory. (hint: think xor).