Question 5 (30 points):

Write the RISC-V assembly code for function `flipBits`. The parameters for `flipBits` are as follows:

- `a0`: the address of the first position of a null-terminated string S.

For each character `flipBits` flips a single bit in the character. Bit 0 of character 0 is flipped, bit 1 of character 1, ..., bit 7 of character 7, bit 0 of character 8, bit 1 of character 9, and so far.

`flipBits` must work for any string length, including empty strings.

`flipBits` must invoke the `flipBitInByte` from Question 5 to flip a bit of a character.

`flipBits` does not have any return values.

Your RISC-V code must follow all the register saving/restoring convention of RISC-V.

RISC-V code for `flipBits`