CS2292 Lab 2

February 4, 2021

Question 1.

Write a C program that prints the binary representation of a character, unsigned and signed integer, and float and double variable.

Question 2.

Write a C program to find out if your machine is Big-Endian or Little-Endian.

Question 3.

Write a C program to convert a Big-Endian to Little-Endian and vice-versa. Clearly print the value stored along with its address.

Question 4.

Read the first 3 paragraphs of `https://book.systemsapproach.org/data/presentation.html`

Question 5.

Download the attached *assembly.cpp*, and compile using the command mentioned in the first line of the file. What does the output mean to you?

Question 6.

Download/Run QtSpim: `https://sourceforge.net/projects/spimsimulator/files/`

Question 7.

Download the attached *swap.s*, and run it on QtSpim.

Question 8.

QtSpim Manuals:

1. `https://www.lri.fr/~de/QtSpim-Tutorial.pdf`
2. `http://ece3056-sy.ece.gatech.edu/wp-content/uploads/sites/546/2014/01/QtSpim-User-Manual-Fi pdf`

See the attached *mips_ assembly.pdf*. Play around with as many instructions as you can.

Question 9.

Define your own C question (keep it simple). Write an assembly code for the same. Run it on QtSpim.