Question 3 (10 points):

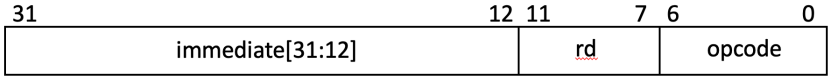

Figure 1: U-Type Format. Used for `lui` instructions in RISC-V.

In a lab assignment for CMPUT 229 you are building a simulator for a RISC-V processor. One of the data structures in this simulator is a table that contains the value of each of the 32 registers in the simulated RISC-V processor. This table is called `regTable`. Each entry in `regTable` is a 32-bit word that corresponds to the current value stored in that register in the simulated RISC-V processor. The position `xi` of `regTable` contains the value of register `xi` in the simulated processor. For instance the value stored in `regTable[0]` should always be zero.

In this question you need to write the RISC-V code for the function `luiUpdate` for this simulator. `luiUpdate` has two arguments:

- `a0:` binary representation of a `lui` instruction
- `a1:` address of first position of regTable

`luiUpdate` changes the contents of `regTable` according to the semantics of the instruction `lui`. The instruction `lui` uses the U-Type format shown in Figure **??**