[**CSCE230301 - Comp Org.& Assmbly Lang Prog**](https://blackboard.aucegypt.edu/webapps/blackboard/execute/courseMain?course_id=_77818_1)

[**(2020 Summer)**](https://blackboard.aucegypt.edu/webapps/blackboard/execute/courseMain?course_id=_77818_1)

**Project 1 Report**

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* Design:
* All fields that might be needed inside the code (i.e rd, rs, immediate) were declared and properly calculated outside the main to make the process easier and faster to deal with.
* Every field is used in its specific format after the assignment of the field using the opcode. (i.e i\_imm in I type, u\_imm in U type, ……)
* funct3 field was used to differentiate between different instructions in the same instruction set (like R and I).
* Challenges :
* A challenge in reading the whole file

→ Solution:

Making the loop that creates the words break when the program counter is equal to the file size + bytes.

* Another challenge in ordering the immediates in the branch and U-type.

→ Solution:

Dividing the different numbers into different variables and adding those variables together when they are properly placed in their own bits.

* Limitations:
* JAL, JALR, Branch → Not sure of the label’s address