Assignment 2

\* Project : Assignment 2

\* Name of the file : COA\_A2.S

\* Brief Description of file : Assembly code for triggering and handling traps

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We begin by loading the address of sp and trap handler.

We load the address of the data section.

We choose to illustrate five of the following traps:

* Instruction address misalign
* Instruction address fault
* Illegal instruction
* Break
* Load address misalign
* Load address fault
* Store address misalign
* Store address fault

In the trap handler, we first adjust sp value and store the value of the 32 registers for saving context. We then load appropriate values into mcause and mepc.

We then begin the switch case to see which trap has been triggered by using the mcause value. The switch case will be used to transfer control to the respective handler.

Under each trap’s handler label, the value of t1 is incremented accordingly to show that the trap has been encountered. The context is then restored to previous by loading the 32 registers before returning.