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CS/CE 3340

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Pgm 4 Report

1.) Problem statement

This program demonstrates how to use the stack to store values between procedures

Understanding how memory is allocated and how to restore values is critical to this assignment.

Learning how MIPS accesses the start will be a great asset for the final project.

2.) Approach to solution

I started this assignment by learning how the stack pointer operates

Next, I modified program 3 to store values to the stack, rather than multiple upfront

Finally, I pulled values off the stack and multiplied and accumulated the result

3.) Solution Description

This program uses labels to split up the basic tasks with jump and link calls to return to main.

First, main prompts the user with information for the type of input expected.

Next, main calls the read label, with a jump and link instruction, to get the number of pairs from the user.

This value is used to establish the maximum number of times the loop for inputting pairs repeats.

Then link returns to main.

After this, the L1 label is called with a jump and link instruction.

The L1 label repeats until the counter max is reached.

Each iteration accepts to integers from the user then stores them to the stack in two separate locations

Finally, when the max value is reached, RETURN is called which takes us back to main

SUMPRODUCT accesses the stack values that L1 placed and multiplies then accumulates them.

Exit prints more information about the process and outputs the final answer.