REPORT

Make a vector string as don't know what the size of assembly code and instruction is width

Loading three instruction at a time where 2 are previous instruction and one is current instruction .

Passing the three string in a function to check for the data hazard function name is checkhazard() that take three argument as string .

Basic approach of checking is ,I am checking for required x then char after that x.

Character after x or register number may be of 2 digit so we have made a loop to check and then concatenate and finally converted to number.

S3 is the current instruction so have find the source and checked with just previous instruction. If any source register matches with destination, then return 2 in case of non-forwarding and 1 in case of forwarding.

Then if nothing matches in previous then will go to second last instruction that s1 here .If founded then will return 1

Return value of the function checkhazard() will be 0 if no hazard found and will be 1 if on nop is being added and will be 2 if two nop is being added.

In non-forwarding if found then return true and print the current string and two more NOPE and update our queue and

Register can be of one digit or two digit so for that introduced another function that will check isdig() i+2 is valid digit or not and if it is there then concatenate using + sign and subtract ascii of 0 to convert in integer.

For cycle count just made one variable that will count when something is being printed and as it is 5 stage . so we will add (5-1) to that number.

Rest thing I have commented out beside the instruction.

Please Note: my code only runs if register in standard name starting with x. Due to lengthiness I have not converted their ABI name. If converted in X format then all are working fine