Assembly programmer's model of a computer

(All registers and memory locations are 4 bytes wide)

	Register bank			Stack		Data memory
R0	0x0000	A1	0x1074	caller-LR	0x007C	
R1		A2	0x1070	caller-R4		
R2	0xFFFA	A3	0x106C	0x0006		
R3	0x0000	A4	0x1068	 		
R4	caller-R4	V1	0x1064			
R5		V2	0x1060			
R6		V3	0x105C			
R7		V4/WR				
R8		V5				
R9		V6/SB				
R10		V7/SL				
R11		V8/FP				
R12		IP :				
R13	0x1070	SP				
R14	caller-LR	LR				
R15	0x001A	PC				
CSPR		1				
03FK /		J				
					_	
1	0 0	0			_	
LN	Z C	 V				
IN	2 0	V				
					_	
		_		: :	_	
IR				:	00000	
		,	01000	:	0x000C	
MAR]	0x1000	<u> </u>	0x0008	
MDR]			0x0004 0x0000	0xFFFA

Processor core

Memory hierarchy

COMMENTS:

Has just finished moving the value of zero into both R0 and R3 and is about to pop PC and R4 out of the stack.