## Assembly programmer's model of a computer

(All registers and memory locations are 4 bytes wide)

	Register bank			Stack		Data memory
R0		A1	0x1074	caller-Ir	0x007C	
R1		A2		caller-r4		
R2		A3	0x106C			
R3	0x0006	A4	0x1068		ļ	
R4	caller-r4	V1 -	0x1064		, T	
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-Ir	LR				
R15	0x0010	PC				
20DD [				:		
CSPR						
$\overline{}$						
0		0				
N	Z C	V				
IR		]				
11.		I			0x000C	<b>↑</b>
MAR			0x1000		0x0008	
					0x0004	
MDR					0x0000	0x0006

## Processor core

## Memory hierarchy

!----NOTE: The value stored in the program counter is one higher than the current instruction due to it being incremented in the fetch cycle, the instruction stored at address 0x0010 has not taken effect.