

Quiz #5

Wednesday, October 25th

Translate the following two functions into ARM assembly:

// Use IT instructions

// Use conditional branch instructions

<pre>// Function prototype declarations: int32_t Greatest(void) ; // Function to be implemented: int32_t Pick(int32_t s32, int32_t a, int32_t b) { if (s32 < Greatest()) return b - a ; else return a - b ; }</pre>	<pre>// Function prototype declarations: uint32_t Min(void), Max(void) ; // Function to be implemented: uint32_t Limit(uint32_t u32) { if (u32 < Min() u32 > Max()) return 0 ; else return u32 ; }</pre>
<pre>Pick: PUSH {R4,R5,R6,LR} MOV R4,R0 // s32 MOV R5,R1 // a MOV R6,R2 // b BL Greatest CMP R4,R0 ITE LT SUBLT R0,R6,R5 // b-a SUBGE R0,R5,R6 // a-b POP {R4,R5,R6,PC}</pre>	<pre>Limit: PUSH {R4,LR} MOV R4,R0 BL Min CMP R4,R0 BLO Then BL Max CMP R4,R0 BLS Else Then: LDR R0,=0 B EndIf Else: MOV R0,R4 EndIf: POP {R4,PC}</pre>