Quiz #2
Wednesday, April 19th

ALL QUESTIONS ARE MULTIPLE CHOICE:

Circle the correct assembly language implementation of each of the following:

1.
```
int32_t s32 ;

s32 = s32 + 10 ;
```

`MOV s32,s32+10`	`LDR R0,s32+10`
	`STR R0,s32`
		`LDR R0,s32`
		`ADD R0,R0,10`
			`LDR R0,s32`
			`ADD R0,R0,10`
			`STR R0,s32`

2.
```
uint32_t f32(void) ;
uint64_t x64 ;

x64 = (uint64_t) f32() ;
```

`BL f32`
`STRD R0,x64`
	`BL f32`
	`STRD R0,R1,x64`
		`BL f32`
		`MOV R1,0`
		`STRD R0,R1,x64`
			`BL f32`
			`MOV R1,0`
			`STRD R1,R0,x64`

3.
```
void f32(uint8_t) ;
uint8_t x8 ;

f32(x8 + 4) ;
```

`LDR R0,x8+4`
`BL f32`
	`LDRSB R0,x8+4`
	`BL f32`
		`LDR R0,x8`
		`ADD R0,R0,4`
		`BL f32`
			`LDRB R0,x8`
			`ADD R0,R0,4`
			`BL f32`

CONTINUED ON OTHER SIDE

4. uint64_t f4(uint32_t u32)

```
{
return (uint64_t) u32 ;
}
```

f4: BX LR	f4: MOV R1,0 BX LR	f4: LDR R0,u32 BX LR	f4: LDR R0,u32 MOV R1,0 BX LR

5. uint32_t f7(uint32_t a, uint32_t b)

```
{
// Prototype declaration
uint32_t f8(uint32_t, uint32_t) ;

return f8(b, a) ;
}
```

f7: MOV R2,R0
MOV R0,R1
MOV R1,R2
BL f8
BX LR
	f7: MOV R2,R0
	MOV R0,R1
	MOV R1,R2
	B f8
		f7: PUSH {LR}
		LDR R0,b
		LDR R1,a
		BL f8
		POP {LR}
		BX LR
			f7: PUSH {LR}
			MOV R1,R0
			MOV R0,R1
			BL f8
			POP {LR}
			BX LR

6. int32_t f9(int32_t a)

```
{
// Prototype declaration
int32_t f10(void) ;

return a + f10() ;
}
```

f9: MOV R1,R0
BL f10
ADD R0,R0,R1
BX LR
	f9: PUSH{LR}
	MOV R4,R0
	BL f10
	ADD R0,R0,R4
	POP {PC}
		f9: PUSH{LR}
		MOV R1,R0
		BL f10
		ADD R0,R0,R1
		POP {LR}
		BX LR
			f9: PUSH{R4,LR}
			MOV R4,R0
			BL f10
			ADD R0,R0,R4
			POP {R4,PC}