MSP430 C Intrinsic Operators

The compiler recognizes a number of intrinsic operators. Intrinsics are used like functions and produce assembly language statements that would otherwise be inexpressible in C. You can use C variables with these intrinsics, just as you would with any normal function. The intrinsics are specified with a leading underscore, and are accessed by calling them as you do a function. For example:

```
short state;
state = _get_SR_register();
```

No declaration of the intrinsic functions is necessary. The following is a list of function-like prototypes and the expected type for each parameter.

Intrinsic	**Generated Assembly**
unsigned short **__bic_SR_register**(unsigned short *mask*);	BIC *mask*,SR
unsigned short **__bic_SR_register_on_exit**(unsigned short *mask*);	BIC *mask*,saved_SR
unsigned short **__bis_SR_register**(unsigned short *mask*);	BIS *mask*,SR
unsigned short **__bis_SR_register_on_exit**(unsigned short *mask*);	BIS *mask*,saved_SR
void **__disable_interrupt**(void); or **_disable_interrupts**(void);	DINT
void **__enable_interrupt**(void); or **_enable_interrupt**(void);	EINT
unsigned short **__get_interrupt_state**(void);	MOV SR,dst
unsigned short **__get_R4_register**(void);	MOV.W R4,dst
unsigned short **__get_R5_register**(void);	MOV.W R5,dst
unsigned short **__get_SP_register**(void);	MOV SP,dst
unsigned short **__get_SR_register**(void);	MOV SR,dst
unsigned short **__get_SR_register_on_exit**(void);	MOV saved_SR,dst
void **__low_power_mode_0**(void);	BIS.W #0x18,SR
void **__low_power_mode_1**(void);	BIS.W #0x58,SR
void **__low_power_mode_2**(void);	BIS.W #0x98,SR
void **__low_power_mode_3**(void);	BIS.W #0xD8,SR
void **__low_power_mode_4**(void);	BIS.W #0xF8,SR
void **__low_power_mode_off_on_exit**(void);	BIC.W #0xF0,saved_SR
void **__never_executed**(void);	See Section 6.8.3.
void **__no_operation**(void);	NOP
void **__set_interrupt_state**(unsigned short *src*);	MOV *src*,SR
void **__set_R4_register**(unsigned short *src*);	MOV.W *src*,R4
void **__set_R5_register**(unsigned short *src*);	MOV.W *src*,R5
void **__set_SP_register**(unsigned short *src*);	MOV *src*,SP

http://ece124web.groups.et.byu.net/labs/HowTos/HowToIntrinsics.html