ffs_imp

MSB	32 bit number	LSB



MSB		32 bit number			LSB	
	bitw	vise 'and' th	e two numb	ers		
00000		00000	11111		11111	

If the first 1 is in bits 0-15 then the bitwise and is not 0
Set n to 1
If the first 1 is in bits 16-31 then the bitwise and is 0
Set n to 17
Shift 'word' to the right by 16



MSB	32 bit num	32 bit number		
	word			
	bitwise 'and' the	e two numbers		
	00000000000000	111111111111111		

If the first 1 is in bits 0-15 then the bitwise and is not 0 Set n to 0

If the first 1 is in bits 16-31 then the bitwise and is 0

Set n to 16

Shift 'word' to the right by 16

bitwise 'and' the two numbers

0000000 11111111

If the first 1 is in bits 0-7 or 16-23 then the bitwise and is not 0 Set n to either 0 or 16

If the first 1 is in bits 8-15 or 24-31 then the bitwise and is 0 Set n to either 8 or 24 Shift 'word' to the right by 8

ffs_imp

If the first 1 is in bits 0-3 or 8-11 or 16-19 or 24-27 then the bitwise and is not 0 Set n to 0, 8, 16, 24 respectively If the first 1 is in bits 4-7 or 12-15 or 20-23 or 28-31 then the bitwise and is 0 **Set n to 4, 12, 20, 28 respectively** Shift 'word' to the right by 4

word

bitwise 'and' the numbers

0000 1111

word

bitwise 'and' the numbers

0011

word

bitwise 'and' the numbers

If the first 1 is in bits 0-1 or 4-5 or 8-9 or 12-13 or 16-17 or 20-21 or 24-25 or 28-29 then the bitwise and is not 0 Set n to 0, 4, 8, 12, 16, 20, 24, 28 resp. If the first 1 is in bits 2-3 or 6-7 or 10-11 or 14-15 or 18-19 or 22-23 or 26-27 or 30-31 then the bitwise and is 0 Set n to 2, 6, 10, 14, 18, 22, 26, 30 resp. Shift 'word' to the right by 2