

1.1)  $3(1) + 4(2) + 2(1) + 1(1) + 1(1) = 15 \text{ (cycles)}$

1.2)  $b[j]$  is  $b[j-1]$  in next iteration  
 $b[j-1]$  is  $b[j-2]$  in next iteration

$f2$  and  $f4$



2)	Order	$W$	$x$	$y$	$z$
	1, 2, 3, 4	error	-2	0	error
	1, 2, 4, 3	error	-2	0	2
	1, 3, 2, 4	$1/3$	-2	0	$-2/3$
	1, 3, 4, 2	$1/3$	-2	$-8/3$	$-2/3$
	1, 4, 2, 3	error	-2	0	2
	1, 4, 3, 2	$1/3$	-2	0	2
	2, 1, 3, 4	$2/3$	-2	6	$-4/3$
	2, 1, 4, 3	$2/3$	-2	6	2
	2, 3, 1, 4	$5/3$	$6/5$	6	2
	2, 3, 4, 1	$5/3$	4	6	$20/3$
	2, 4, 1, 3	$5/3$	4	6	-4
	2, 4, 3, 1	$5/3$	$-12/5$	6	-4
	3, 1, 2, 4	2	1	3	2
	3, 1, 4, 2	2	1	3	2
	3, 2, 1, 4	2	1	6	2
	3, 2, 4, 1	2	4	6	8
	3, 4, 1, 2	2	4	12	8
	3, 4, 2, 1	2	4	12	8
	4, 1, 2, 3	error	4	0	-4
	4, 1, 3, 2	$2/3$	4	0	-4
	4, 2, 1, 3	error	4	0	-4
	4, 2, 3, 1	error	error	0	-4
	4, 3, 1, 2	$2/3$	$-12/7$	$-40/7$	-4
	4, 3, 2, 1	$2/3$	$-12/7$	0	-4



3)  $A = \text{nonzero values of } x = 20$

$$IA = \text{len. } m+1 (\text{entry/row}) = 8+1$$

$$JA = \text{nonzero values} = 20$$

$$20 + 20 + 9 = 49$$

You need space equal to 49 times  
each element.