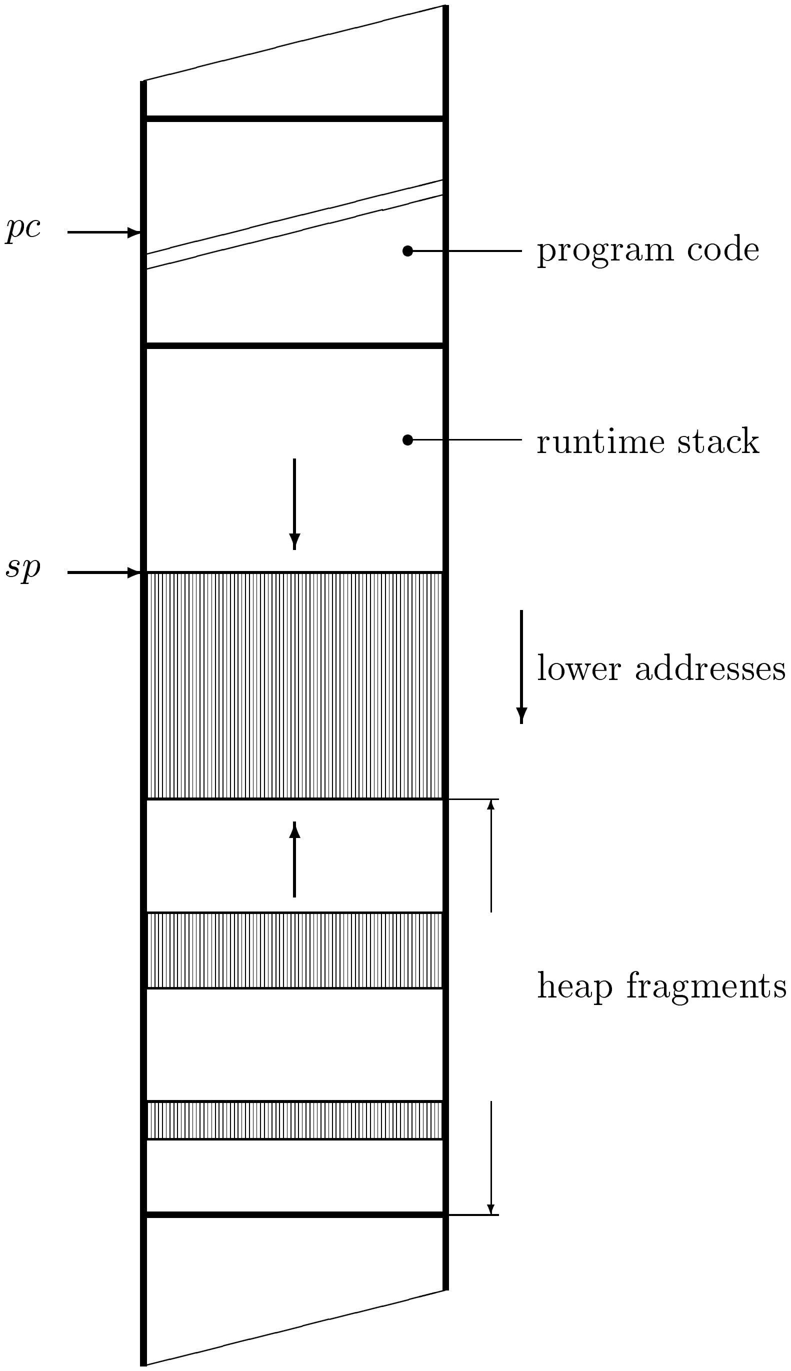
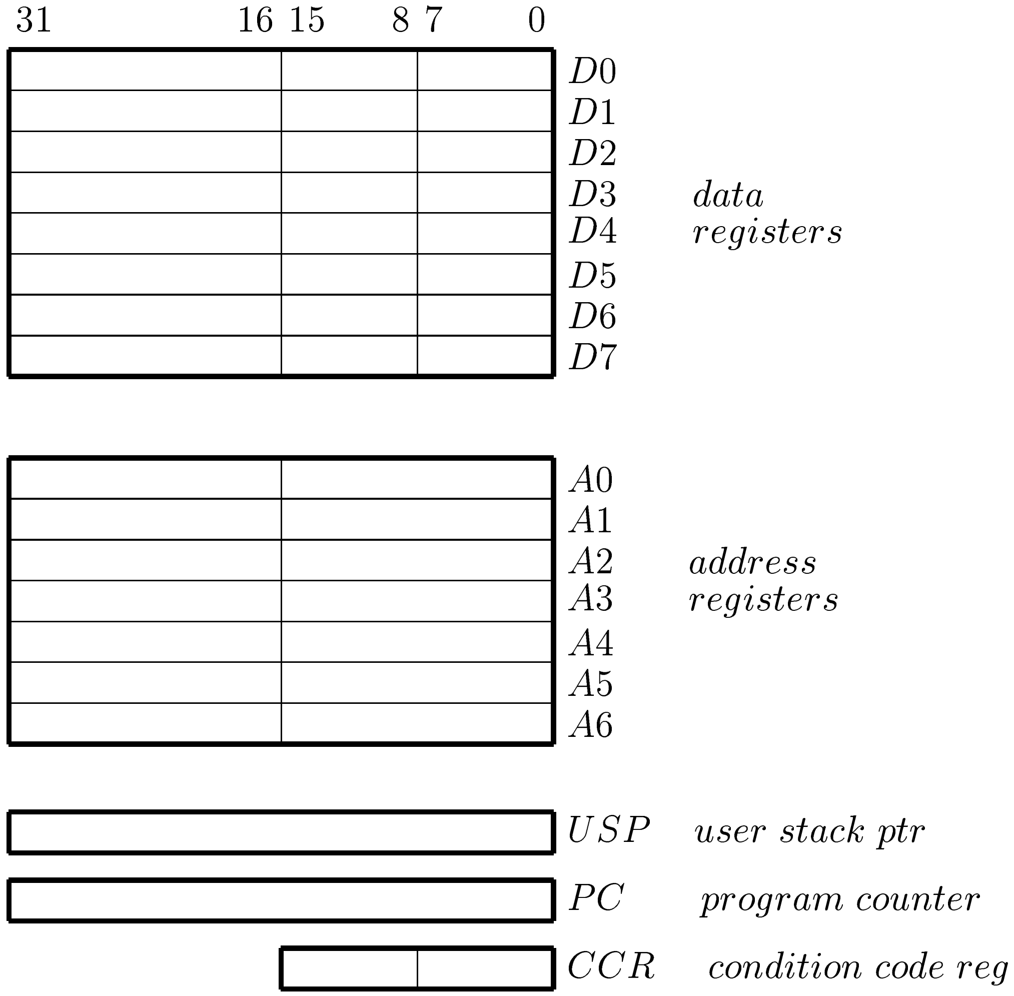
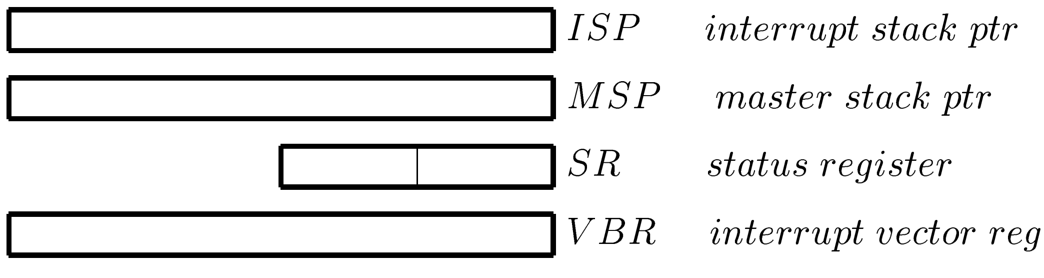


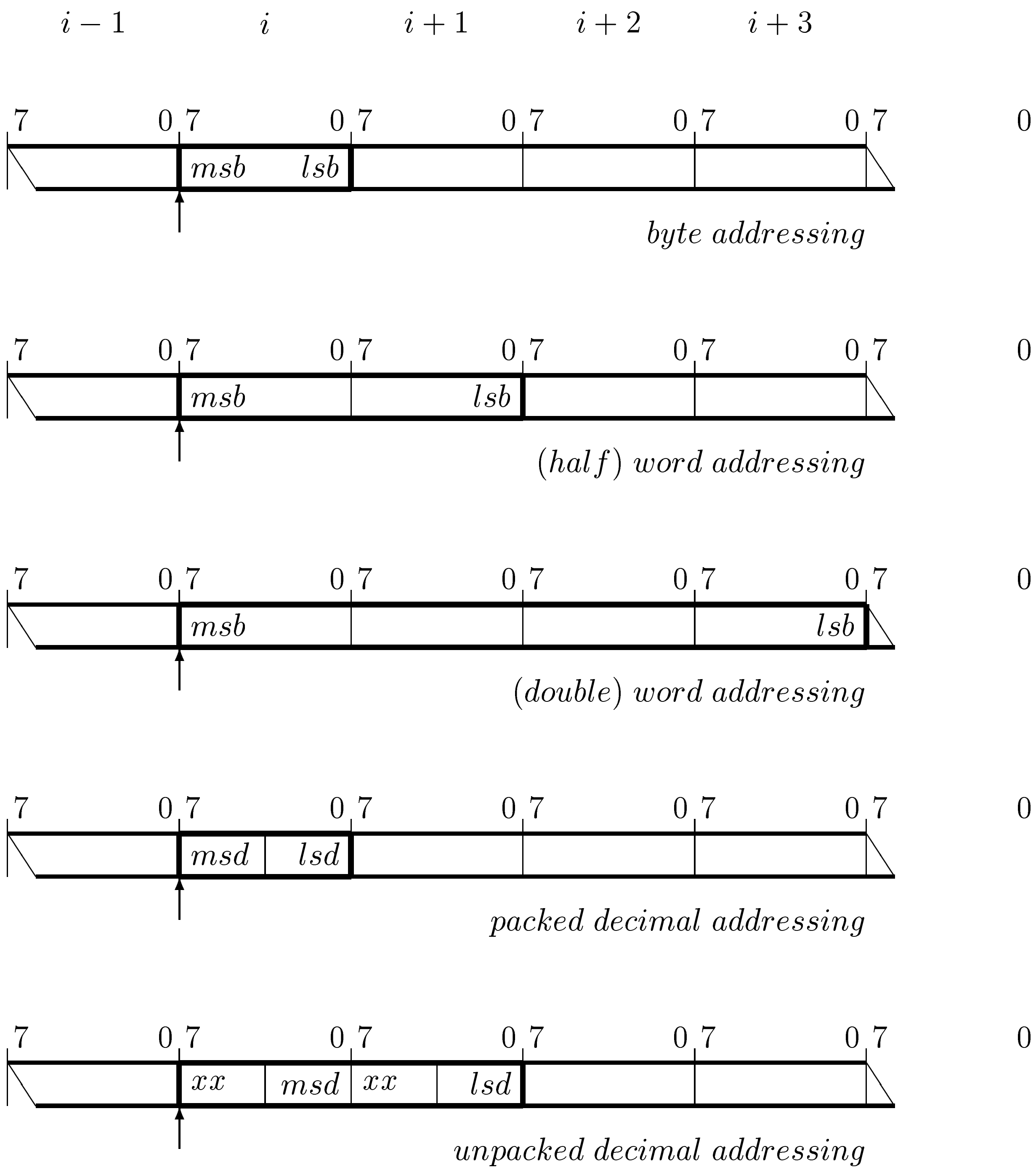
Typical memory layout for program execution



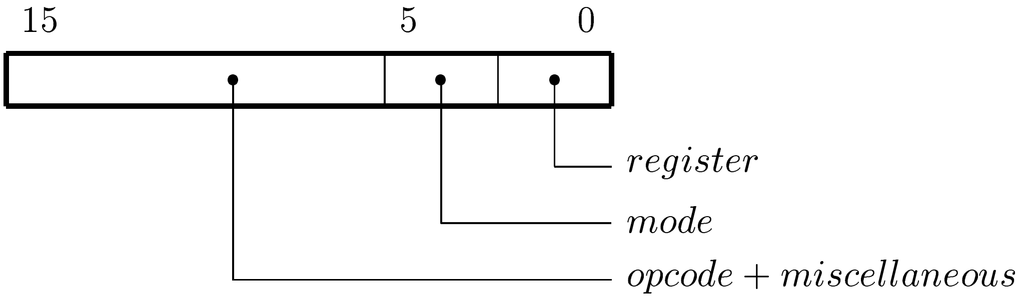
user mode registers



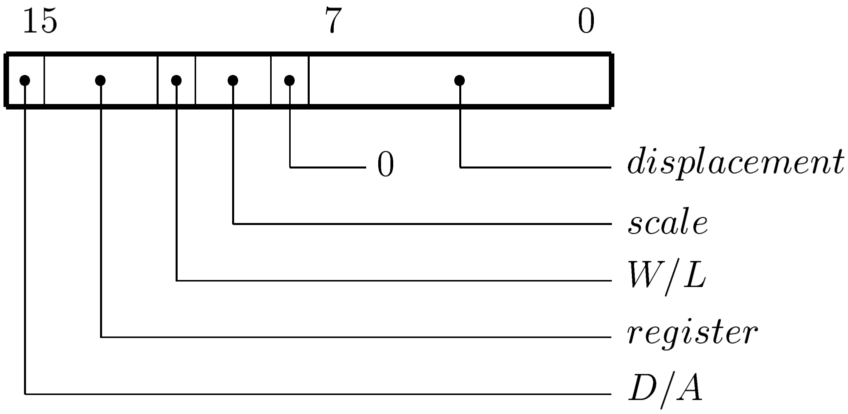
supervisor mode registers


i − 1
i
i + 1
i + 2
i + 3
7 0 7 0 7 0 7 0 7 0 7 0
msb lsb
byte addressing
7 0 7 0 7 0 7 0 7 0 7 0
msb lsb
(half) word addressing
7 0 7 0 7 0 7 0 7 0 7 0
msb lsb
(double) word addressing
7 0 7 0 7 0 7 0 7 0 7 0
msd lsd
packed decimal addressing
7 0 7 0 7 0 7 0 7 0 7 0
xx msd xx lsd
unpacked decimal addressing

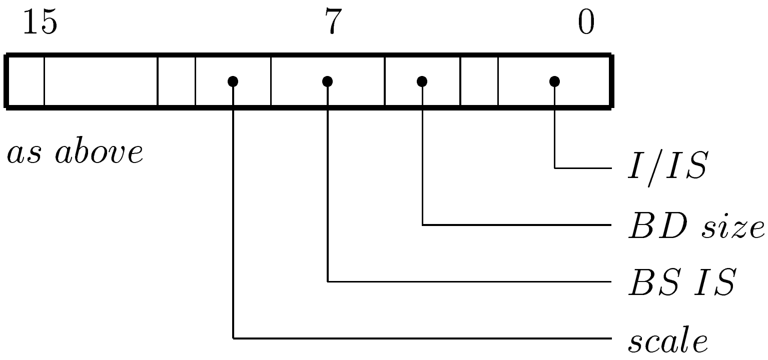
Single effective address instruction format



Short format extension



Full format extension



Base displacement

(0 | 1 | 2 (half) words)

`MOVE.x ea,ea`

opc	*size*	*d_mode*	*d_reg*	*s_mode*	*s_reg*
15		11	7	5	0

`MOVEA.x ea,An`

opc	*size*	*d_reg*	*opc*	*s_mode*	*s_reg*
15		11	7	5	0

`MOVE CCR,ea`

op_code	*d_mode*	*d_reg*
15 11 7	5	0

`MOVE ea,SR`

op_code	*s_mode*	*s_reg*
15 11 7	5	0

`MOVEM.x ea,reg_list | reg_list,ea`

op_code	*dr*	*opc*	*sz*	*mode*	*reg*
A7 *addr_mask* *A*0			*D7* *data_mask* *D*0		
15 11		7		5	0

`MOVEP.x Dn,(d,Am)`

op_code	*data_reg*	*op_m*	*opc*	*addr_reg*
displacement				
15	11	7	5	0

`LINK.x An,#displacement`

<table>
<tr><td colspan="3">op_code</td><td>reg</td></tr>
<tr><td colspan="4">$(half)$ word displ | $(long)$ word displ high</td></tr>
<tr><td colspan="4">$(long)$ word displ low</td></tr>
</table>

15 7 0

`CMPI.x #data,ea`

<table>
<tr><td>op_code</td><td>size</td><td>mode</td><td>reg</td></tr>
<tr><td>$(half)$ word data</td><td colspan="3">byte data</td></tr>
<tr><td colspan="4">$(full)$ word data</td></tr>
</table>

15 7 0

`BSR label`

<table>
<tr><td>op_code</td><td>8 bit displ</td></tr>
<tr><td colspan="2">$16\ bit\ displ\ if\ 8\ bit\ displ = H`00'$</td></tr>
<tr><td colspan="2">$32\ bit\ displ\ if\ 8\ bit\ displ = H`FF'$</td></tr>
</table>

15 7 0

`BCC label`

<table>
<tr><td>op_code</td><td>cond_code</td><td>8 bit displ</td></tr>
<tr><td colspan="3">$16\ bit\ displ\ if\ 8\ bit\ displ = H`00'$</td></tr>
<tr><td colspan="3">$32\ bit\ displ\ if\ 8\ bit\ displ = H`FF'$</td></tr>
</table>

15 7 0