

3.

1. loadAl.  $r_{arp} - 4 \Rightarrow \overset{r_3}{\cancel{Vr1}}$

	$r_1$	$r_2$	$r_3$
name	$\perp$	$\perp$	$\cancel{Vr1}$
next	$\infty$	$\infty$	$\infty 5$
Free	T	T	$\cancel{T} F$

$\cancel{r_3}$   
 $r_2$   
 $r_1$

5. add.  $\overset{r_3}{Vr1}, \overset{r_1}{Vr4} \Rightarrow \overset{r_1}{Vr5}$

	$r_1$	$r_2$	$r_3$
name	$\cancel{Vr4} \perp \cancel{Vr5}$	$Vr2$	$\cancel{Vr1} \perp$
next	$5 \infty$	9	$5 \infty$
free	$\cancel{T} \cancel{T} \cancel{T}$	F	$\cancel{T} T$

$r_1$   
 $\cancel{r_2}$   
 $r_3$

2. loadAl.  $r_{arp} - 8 \Rightarrow \overset{r_2}{\cancel{Vr2}}$

	$r_1$	$r_2$	$r_3$
name	$\perp$	$\cancel{Vr2}$	$Vr1$
next	$\infty$	$\infty 4$	5
Free	T	$\cancel{T} F$	F

$\cancel{r_2}$   
 $r_1$

6. loadli 10  $\Rightarrow \overset{r_1}{\cancel{Vr6}}$

	$r_1$	$r_2$	$r_3$
name	$\perp \cancel{Vr6}$	$Vr2$	$\perp$
next	$\infty 7$	9	$\infty$
free	$\cancel{T} F$	F	T

$\cancel{r_1}$   
 $r_3$

3. loadli 4  $\Rightarrow \overset{r_1}{\cancel{Vr3}}$

	$r_1$	$r_2$	$r_3$
name	$\cancel{Vr3}$	$Vr2$	$Vr1$
next	$\infty 4$	4	5
Free	$\cancel{T} F$	F	F

$\cancel{r_1}$

7. store.  $\overset{r_1}{Vr6} \Rightarrow \overset{r_3}{Vr5}$

	$r_1$	$r_2$	$r_3$
name	$\cancel{Vr6} \perp$	$Vr2$	$\cancel{Vr5} \perp$
next	$\cancel{T} \infty$	9	$\infty \infty$
free	$\cancel{T} T$	F	$\cancel{T} \cancel{T} T$

$r_3$   
 $\cancel{r_1}$   
 $\cancel{r_2}$

4. mult.  $\overset{r_2}{\cancel{Vr2}}, \overset{r_1}{Vr3} \Rightarrow \overset{r_1}{\cancel{Vr4}}$

	$r_1$	$r_2$	$r_3$
name	$\cancel{Vr4}$	$\cancel{Vr3} \cancel{Vr2}$	$Vr1$
next	$\cancel{5} \cancel{10}$	$\cancel{9}$	5
Free	$\cancel{T} F$	F	F

$\cancel{r_1}$

Spill store  $r_1 \Rightarrow r_{arp}.16$

8. loadAl  $r_{arp} - 12 \Rightarrow \overset{r_3}{\cancel{Vr7}}$

	$r_1$	$r_2$	$r_3$
name	$\perp$	$Vr2$	$\perp \cancel{Vr7}$
next	$\infty$	9	$\infty 9$
free	T	F	$\cancel{T} F$

$\cancel{r_3}$   
 $r_1$