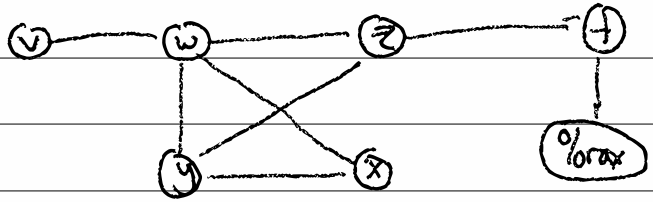
6-1

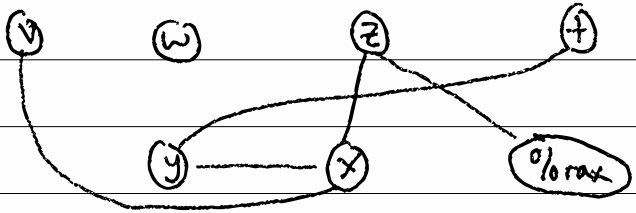
I)



edge list

(v,w) (w,z) (z,t)

II)



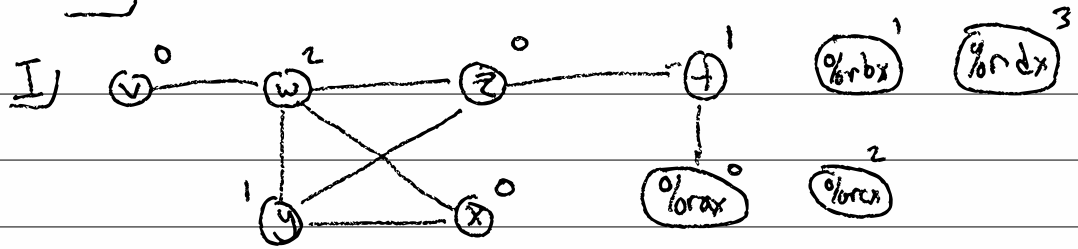
v ↦ w

w ↦ v, y, z, x

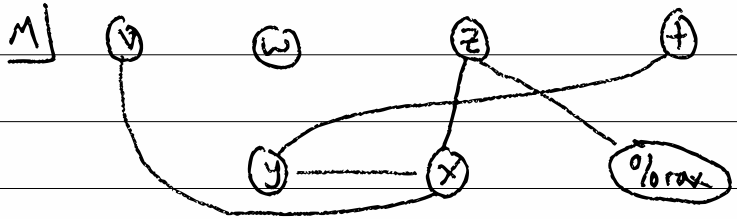
y ↦ w, z, x

6-2

I]



M]




```
movq  $1, !v
movq  $46, !w
movq  !v, !x
addq  $7, !x
movq  !x, !y
addq  $4, !y
movq  !x, !z
addq  !w, !z
movq  !y, !t
negq  !t
movq  !z, %rax
addq  !t, %rax
```

```
movq  $1, %rax
movq  $46, %rcx
~~movq %rax, %rax~~
addq  $7, %rax
movq  %rax, %rbx
addq  $4, %rbx
~~movq %rax, %rax~~
addq  %rcx, %rax
~~movq %rbx, %rbx~~
negq  %rbx
~~movq %rax, %rax~~
addq  %rbx, %rax
```

6-3 / Saturation

$V = \{v, w, x, y, z, t\} \cup \{rax, rbx, rcx, \ldots, r11, r12\}$

color : $G^{--}(V, I) \rightarrow (V \Rightarrow C)$

$x^{\sigma_0} (V \Rightarrow C)$ ← init = $(rax \Rightarrow 0, rbx \Rightarrow 1, \ldots)$

$x \quad M$ $\quad sat(v) = \{\sigma(u) \mid u \in adj(v)\}$

$\sigma \leftarrow \sigma_0$

$W \leftarrow V$ (vertices of I, ie, the variables in program)

while $W \neq \emptyset$:

select v from W where $sat(v)$ is maximal

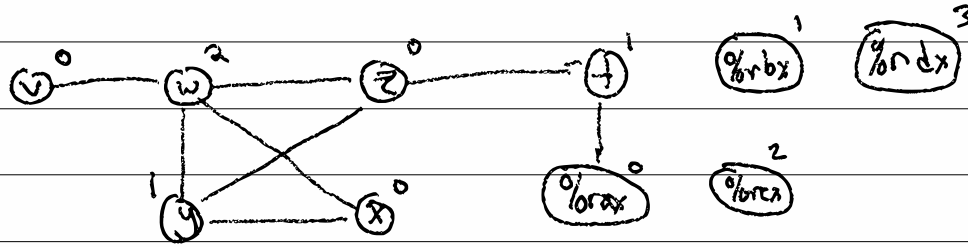
select c_0 where c_0 is the smallest color $\notin sat(v)$

if none basically, $M(v)$ then $0 \ldots \infty$

$\sigma(v) = c_0$

remove v from W

I/



M/