a, b, b, ~~b~~, c, b

1 2 3 4 5

(a) and (i) (a) and (b)

b c ~~b~~ b

1 2 8

b

9

Q

p

5

$p == 1 \rightarrow 5.$

$p == 0 \rightarrow$ Right

$1 \quad p \quad p^2 \quad p^3$

$5 \quad 5 \quad 5 \quad 5$

$5\left(\frac{1}{1-p}\right)$

$4\left(\frac{1}{1-p}\right) > (5+p)\left(\frac{1}{1-p^2}\right)$

$(1-p)(1+p)$

$> 6 + p\left(\frac{3}{1-p}\right)$

$4+4p > 5+p$

$5 > 6 - 6p + 3p$

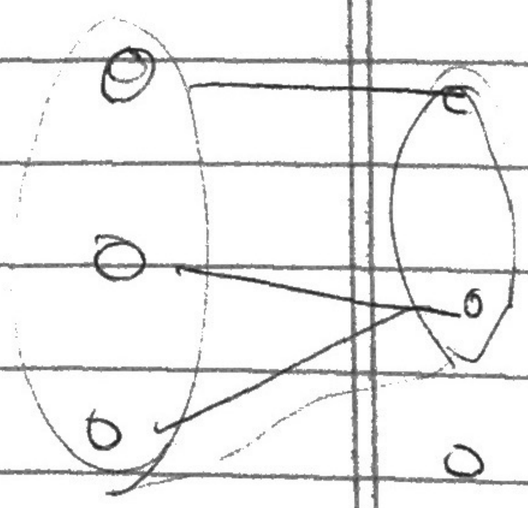
$3p > 1$

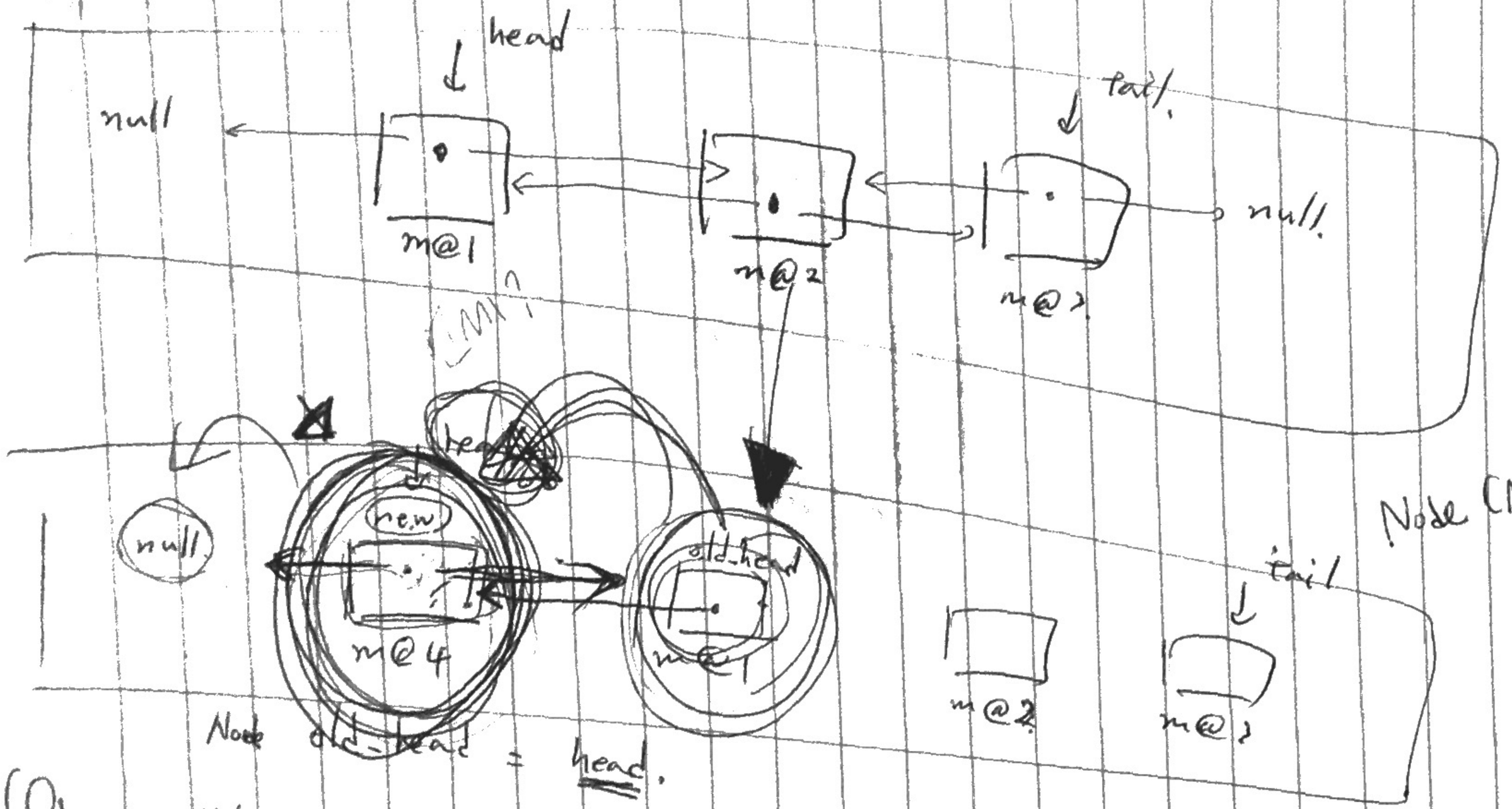
$5\left(\frac{1}{1-p}\right)$

$10 + p\left(\frac{1}{1-p}\right)$

$5 = 10 - 10p + p$

$= 5$



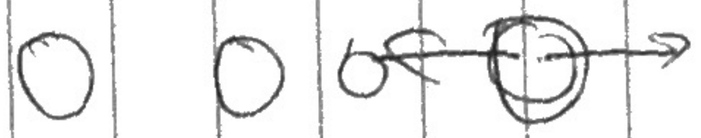


Node new_head = new Node(null, v, old_head)

head = new_head

old head. setPred(new_head)

getData



Event set. ~~Look~~ look up — Something happened
No Look up — Nothing happened

~~Pr[Look Up] = p~~

Pr[LookUp | Something] = p ↑
Pr[No Look | Something] = 1-p
Pr[Look Up | Nothing] = ε
Pr[~~Look Up~~ No Look | Nothing] = 1-ε ↑

Pr[Something] = r
Pr[Nothing] = 1-r

$Pr[\text{Something} \mid \text{Look}^n] = \frac{[\text{Something}]\,\varepsilon}{Pr[\text{Lookup}^n \mid \text{Something}][\text{Something}]}$

$= \frac{\varepsilon}{0.1}$

~~Pr[Nothing | Look up]~~ = (1-ε)

$\log \frac{1}{2} = -\log 2$

$(\geq \frac{1}{2})$

$\frac{\varepsilon^n (1-r)}{p^n \cdot r} < 1$

$\left(\frac{\varepsilon}{p}\right)^n < \frac{r}{1-r}$

$n \log \varepsilon/p < \frac{r}{1-r}$

$n > r/(1-r) \cdot \log \varepsilon/p$