

We will start @ 12:40

L	L	B
B	2	B
B		B

8

2	L	K	B
1	2	0	9

B \rightarrow arrange is hugle

9

$L, R, 2$

\Rightarrow

$l+r+2 \geq \text{mn}$

$l+r+2 < \text{mn}$

\downarrow
 \downarrow
 $b == 0$
 $l+r+2$
 \uparrow

$LLL \dots RRR \dots 222$

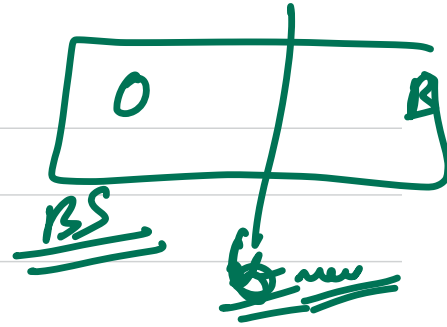
$LLL \dots 222 \dots RRR$

$LLL \dots 22$

$\dots 22 \dots RR$

2 B.2

L B P



maximum no. of B's we can place

\hookrightarrow $f(x) \rightarrow$ is true if all L's R's Z's & x
b people can be in the station.

$x_1 > x_2$

$f(x_1)$ \rightarrow $f(x_2)$

$$\underline{\underline{f(b)}}$$

$$d + r + 2 + b \leq mn$$

$$\underline{\underline{N}} \quad \underline{\underline{(B - B - B - B - \dots -)}}$$

$$b \leq N + \left\lceil \frac{n}{2} \right\rceil$$

$$\underline{\underline{\quad \quad \quad}}$$

370

c seats
B - - - B B - B
B - B

B - - - - - 0

for a row \rightarrow b people for both correct.

allent b-1 seats empty in a row

$$L + r + (2b-1) \leq M$$



$$l + r + b + \underline{\underline{(b-n)}} \leq mn$$

$$\underbrace{L L L \dots L}_L \underbrace{B - B - B \dots}_{2b-1} \underbrace{R R R \dots R}_R$$

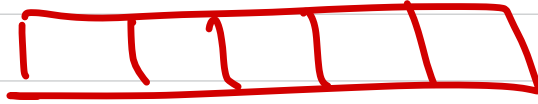
N_{rows}

$$\underline{\underline{b \leq N}}$$

→ an 6 each
row

$$\underline{\underline{b > n}} \rightarrow \underline{\underline{b-n}} \rightarrow \underline{\underline{2 \text{ gaps}}}$$

0 → gap



$m+1$ assumed

$(m+1)N \rightarrow$ Total

$$l + r + 2b \leq (m+1)N$$

$$l + r + 2b \leq mN + N$$

$$l + r + 2b - N \leq mN$$

$$\boxed{l + r + b + (b - n) \leq mN}$$

$f(6)$ \rightarrow Time

$$l+r+2+b \leq mn$$

$$b \leq N_x \left\lceil \frac{m}{2} \right\rceil$$

$$d + r + b + (b - n) \leq \underline{\underline{mn}}$$

0 ——— (B + c)
 (mi)
 ↓
 false

f(mi)

B . B - B -

B $\xrightarrow{\quad}$ seats \rightarrow d, r
B --- B //



C \rightarrow d's
C \rightarrow r's



$$\boxed{B + (B-1)} \quad \swarrow$$

span

$b \geq 0$

$\overbrace{L L L L} \quad \overbrace{\underline{b} - \underline{b} - \underline{b} - \underline{b}} \quad \overbrace{R \leftarrow R R R}$

b
 $n \leq n$

$y \rightarrow b's$
 $(y-1) \rightarrow \text{spawn}$

$$l + r + b + bN \leq mn$$

~~$\log b$~~

$$l + r + b + b - 1 \leq m$$

$$l + r + 2b - 1 \leq m$$

$$d + r + 2 + b \leq mn$$

$$\underline{\underline{d + r + 2 \geq mn}}$$

$$b \leq N + \left\lceil \frac{m}{2} \right\rceil$$

$$d + r + b + (b - N) \leq mn$$

$$\textcircled{\textcircled{\textcircled{b}}}$$

$$\textcircled{d + r + 2} \leq mn$$

$$\rightarrow b \leq mn - d - r - 2$$

$$b \leq N + \left\lceil \frac{m}{2} \right\rceil$$

$$nm, \underline{d + r + 2} \leq \underline{\underline{\frac{1}{m}}}$$

$$b \leq \left\lfloor \frac{(m+1)N - L - R}{2} \right\rfloor$$

$$b \leq \min \left(mn - d - r - 2, N + \left\lceil \frac{m}{2} \right\rceil, \left\lfloor \frac{(m+1)N - L - R}{2} \right\rfloor \right)$$

$$N \times M, d+r+2 +$$

$$\min \left(\underbrace{b, m, N - d - r - 2, N \times \left\lceil \frac{M}{2} \right\rceil, \left\lfloor \frac{(m + d + N - d - r)}{2} \right\rfloor}_{\leq} \right)$$

$$\begin{array}{cccccc} N & m & 2 & d & r & b \\ 3 & 3 & 1 & 2 & 0 & 9 \end{array}$$

$$\lceil \frac{3}{2} \rceil$$

$$\min \left(9, \underbrace{3}_{\text{min}} + \min \left(9, \underline{6}, \underline{6}, 9 \right) \right)$$

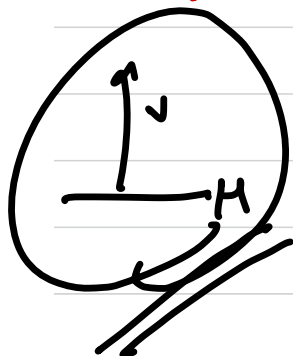
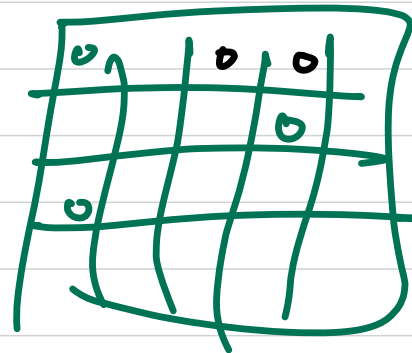
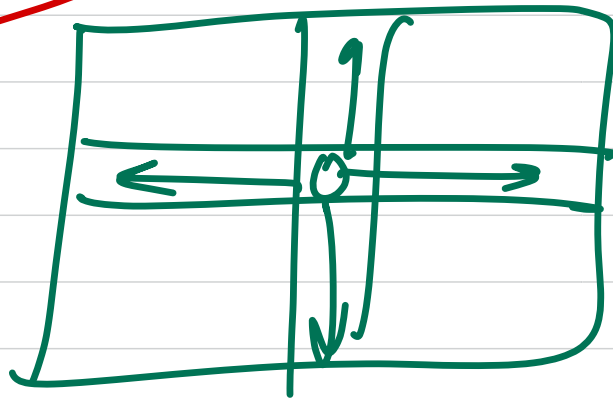
$$\frac{9 - 2 - 0}{2}$$

$$\textcircled{8}$$

$$N \times \left\lceil \frac{M}{2} \right\rceil \rightarrow \left(\frac{m+1}{2} \right) \times N$$

$$9 - 2 - 0 - 1$$

$$16 \times 16 \leq 10^8$$



$$3^{16} \rightarrow 2^{10}$$