Nishant Jindal

Q a b c d

(1) $4000 \le N < 6000$

a Can be filled by 4,5

(2) $3 \le b < c \le 6$

Possibity → 34, 35, 36
45, 46, 56 } 6

(3) N should be multiple of 5

0,5

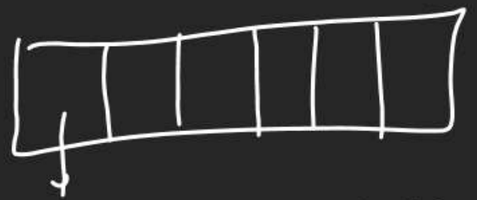
$^2C_1 \times {}^6C_1 \times {}^2C_1 = 24$

(9) 6 digit → a b c d e f

$a+b+c+d+e+f = a^2+b^2+c^2+d^2+e^2+f^2$

only 2 possiblity for such case

0,1



$1 \times 2 \times 2 \times 2 \times 2 \times 2 = 32$

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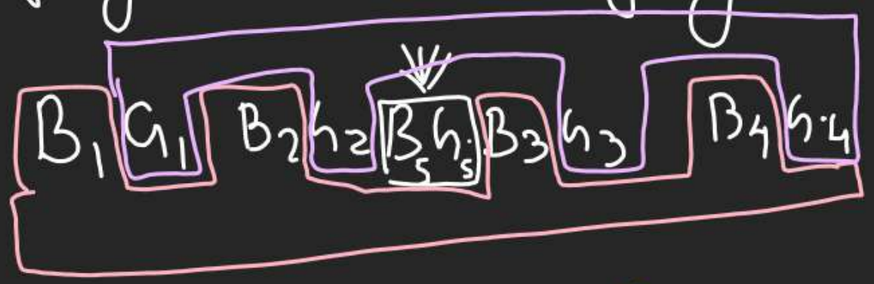
5 B, 5 G.

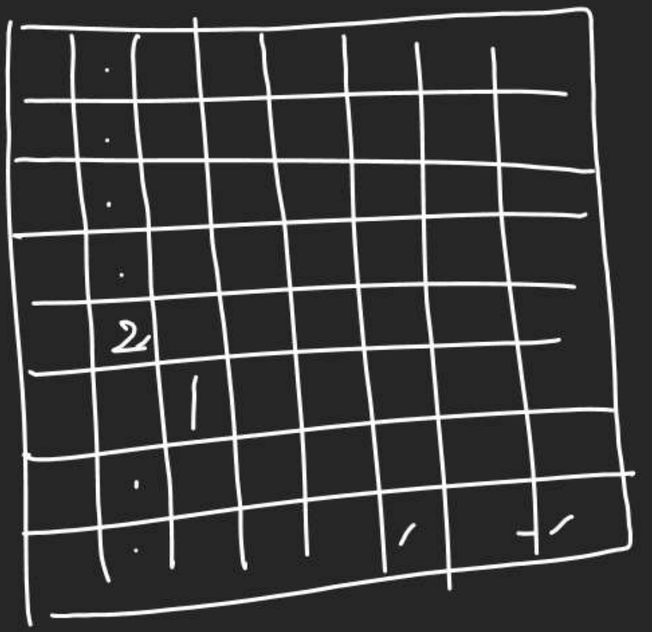
(C) Boys & girls are Alternative

& a specific girl & Boy are always together.



$4 \times 4 \times 2$

DPP-4



$$\frac{64 \times {}^{49}C_1 \; {}^{C_1}}{2}$$

1) 64 ways Pick any one using ${}^{64}C_1$

2) Now we can choose any sqr from Rest of 49 sqr.

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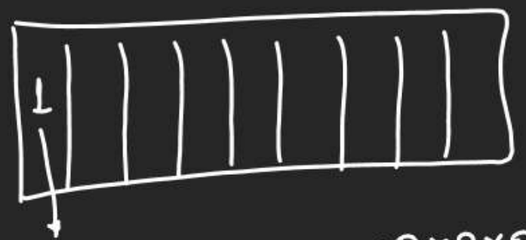
Q 200 million.

200000000 Use 1, 2-



$1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ 9 digit

$= 2^8$

$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^8$

10 Ind, 10 American

5 m + 5 f 5 m + 5 f

1 Indian → 10 handshake

American lady → 9 handshakes

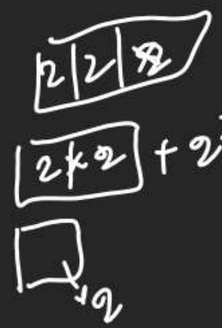
Total handshakes $= 20C_2 - (5 + 50)$

American lady

Q

$2 \times 2 \times 2 \times \text{---} \times 2 = 2^n - 1$ (case when all no. are 1.1111111 or 22222-

1



$2^3 + 2^2 + 2^1$

$(2^1 + 2^2 + 2^3 + 2^4 + \text{---} + 2^8) + 2^8$

$\frac{2(2^8 - 1)}{2 - 1} + 2^8 = 3 \cdot 2^8 - 2$ Ans

$= 2^n - 2 = 510$

$2^n = 512$

$n = 9$

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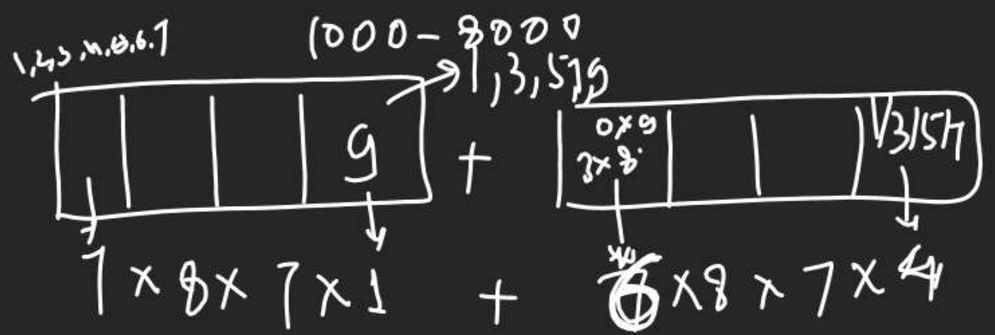
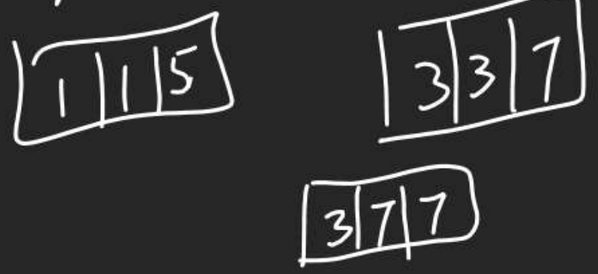
(5) Venndiag.

$n(A \cup B) = n(A) + n(B) - n(A \cap B)$

(6)



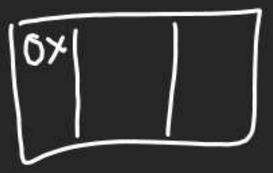
HABD Der



Q Find No.W to select 3 digit Nos such that

A) $x < y < z$

x, y, z can be selected from 1-9 only



$9_{C_3} \times 1$

(B) When $x \leq y < z$

$x \leq y < z$ → $x = y < z \rightarrow 9_{C_2} \times 1$ (41) + $x < y < z \rightarrow 9_{C_3} \times 1$

11_{C_3} $10_{C_2} + 10_{C_3} = 11_{C_3}$

$9_{C_2} + 9_{C_3}$

(C) When $x \leq y \leq z$

$9_{C_1} + 9_{C_2}$ + $9_{C_2} + 9_{C_3}$

$x = y = z \rightarrow 9_{C_1} \times 1$

$x = y < z \rightarrow 9_{C_2} \times 1$

$x < y = z \rightarrow 9_{C_2} \times 1$

$x < y < z \rightarrow 9_{C_3} \times 1$

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Cricket Prob.

Q A Cricket team of 11 players (A to K) is to be sent for batting. If A wants to bat before J & J wants to bat After G. find No of batting Orders if rest of players can go in any order.

A
B
C
D
E
F
G
H
I
J
K

Samsya → A, J, G

G AJ , A GJ

$\{_3 \times 2 \times 8!$

Q A train having 12 Stations en route has to be stopped at 4 Stations, No of ways it can be stopped if no two of stopping station are consecutive.

Cinema hall
12 Red chair
4 chairs pulled
Color changed to Blue
Pushed them in 3 gaps

No of ways = ${}^9C_4$ ways.

No of ways of selection of 4 stations in a line out of 12 stations when none of them is consecutive

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* R.K.

If n pts are in a Line & we have to select r pts such that none of them is Consecutive. $n-r+1C_r$

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