

7821081179



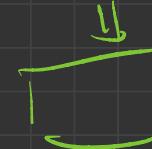
④

Course! →

[L R - 4 vs R] ✓

Real world

client



JM

→ Consistency: ✓

Habit: Routine:

Schedule ✓ ✓

✓ g-10
✓

10-10
10:30 - 11:20 PM

→ Notes ✓

LinkedIn | twitter → update

→ GitHub ✓

↓
accountability

Resume :-
Project

* [Rules & Regulation]

1 →

2 → Live class mein doubt

[TA's]

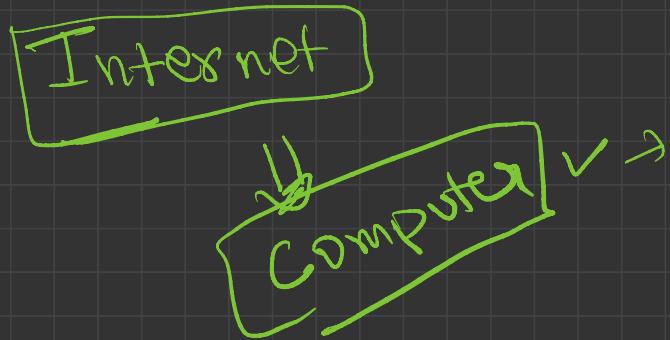
③ After live class doubt khud ↴

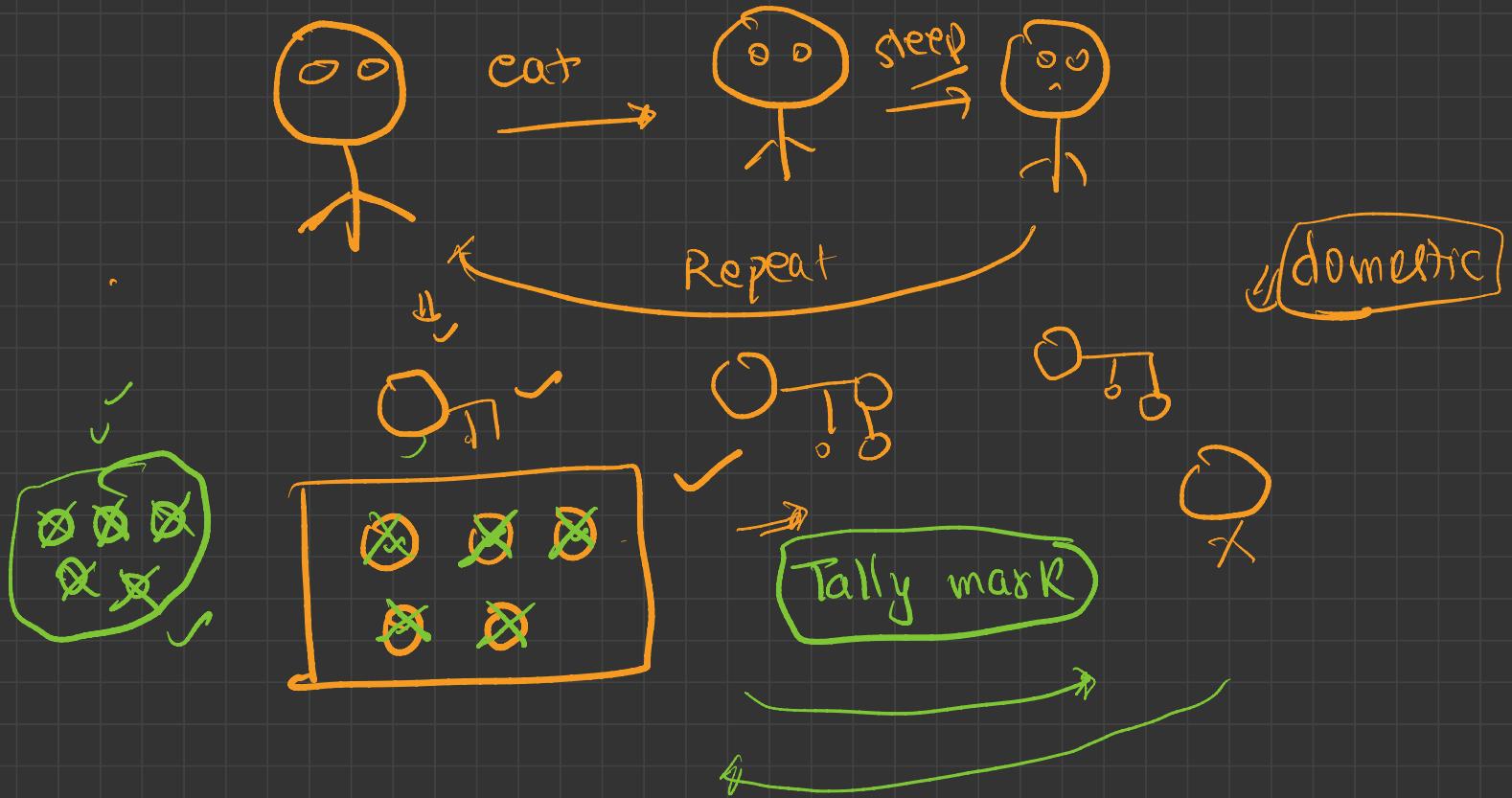
↳ khud se → chatopt
→ stackoverflow

+ TA ↴

Course start

zero





27

38



1000 → Count

Tally mark ✓

Counting

Language

Number system ✓

* Base₆₀: ✓ 60 unique ↗ Computer: complex

⊕ Base₁₀: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9] ↴ ↴

Indian

$$\begin{array}{r}
 4 \\
 + 8 \\
 \hline
 12 \quad \checkmark
 \end{array}$$

$$\begin{array}{r}
 7 \\
 + 6 \\
 \hline
 13
 \end{array}$$

[||||| | | | | |]

[13] ✓

1

Home

1800+

Century

Trade

Regist.

100 - Bhk

80rs a day

90 → Bhk

calculation

Full bharī ✓

Profit ✓



Computer! To compute

To calculate ✓

Accuracy
slow -

0 1 2 3 4
9 8 7 6 5 ✓

0 1 2 3 4
9 8 7 6 5 ✓

Room

Physical computer

calculate ✓

* 1950 :

Transistor



ON

Bulb

OFF

* Binary No System

Base₂

{ 0, 1 }

$$\begin{array}{r}
 \text{Bin} \\
 \begin{array}{r}
 0 \\
 + 0 \\
 \hline
 0
 \end{array}
 \end{array}
 \quad
 \begin{array}{r}
 \text{Bin} \\
 \begin{array}{r}
 0 \\
 + 1 \\
 \hline
 1
 \end{array}
 \end{array}$$

Decimal 0

$$\begin{array}{r}
 \begin{array}{r}
 1 \\
 + 0 \\
 \hline
 1
 \end{array}
 \quad
 \begin{array}{r}
 1 \\
 + 1 \\
 \hline
 10
 \end{array}
 \end{array}
 \quad
 \begin{array}{r}
 \rightarrow 1 \\
 \boxed{2} \\
 \text{Binary}
 \end{array}$$

$$\begin{array}{r} 10 \\ + 1 \\ \hline \end{array}$$

11

3 Decimal

0

1

2

3

4

5

6

7

$$\begin{array}{r} 11 \\ + 1 \\ \hline \end{array}$$

100

4 Binary

0

1

10

11

100

101

110

111

$$\begin{array}{r} 100 \\ + 1 \\ \hline \end{array}$$

101

5

✓

Base of
numb.
27 \Rightarrow Binary :

27	2	27	
	2	13	
	2	6	1
	2	3	0
	2	1	1
	2	0	1

11011 ✓

Base 2

$$\begin{array}{r} 13 \\ 2 \sqrt{27} \\ -26 \\ \hline 1 \\ -1 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 0 \\ 2 \sqrt{1} \\ -0 \\ \hline 1 \end{array}$$

$$\begin{array}{r|rrr} & 2 & 5 & 7 \\ \hline & 2 & 28 & \\ & 2 & 14 & \\ & 2 & 7 & \\ & 2 & 3 & \\ & 2 & 1 & \\ & 2 & 0 & \\ \hline & & & 1 \\ & & & 0 \\ & & & 0 \\ & & & 1 \\ & & & 1 \end{array}$$

Binary

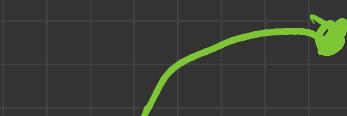
[1 1 1 0 0 1]

Decimal \rightarrow Binary

Binary \rightarrow Decimal

Base, ✓

$$386 \Rightarrow \underbrace{3 \times \cancel{10}^2 + 8 \times \cancel{10}^1 + 6 \times \cancel{10}^0}_{\text{Base, } \checkmark}$$



Decimal

386

$$1 \times \cancel{2}^3 + 1 \times \cancel{2}^2 + 0 \times \cancel{2}^1 + 1 \times \cancel{2}^0 \\ 8 + 4 + 0 + 1$$

13 ✓

$$\begin{array}{r} \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 1 & 0 & 1 & 1 & 1 & 0 \end{array} =$$

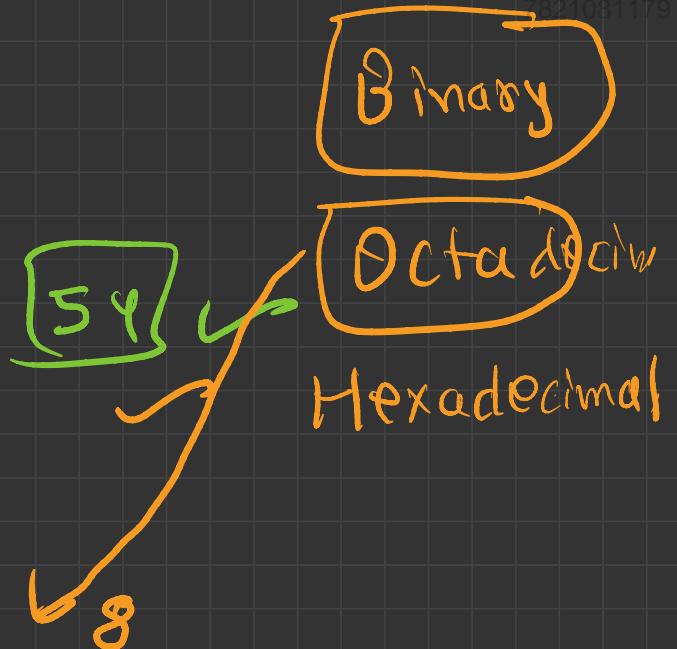
$$2^5 + 2^4 + 2^3 + 2^2 + 2^1 + 2^0$$

$$\overbrace{32+16+0+4+2+0}$$

Decimal \rightarrow Octal ✓

[0, 1, 2, 3, 4, 5, 6, 7] ✓

8 unique



Base of number

$$\begin{array}{c|cc|c}
 & 8 & \overline{3} & 7 \\
 \hline
 & 8 & 4 & 5 \\
 & 0 & 4 & \\
 & & &
 \end{array}$$

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Octal equivalent

45

↓

decimal

$4 \times 8^1 + 5 \times 8^0$

$32 + 5 = \underline{\underline{37}}$

Hexadecimal

Base₁₆

10 11 12 13
A B C D E F

[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F]

Hexadecimal	16	38	6	2	0	2	6	0	E	F	D	C	B	A	9	8	7	6	5	4	3	2	1	0
	16	2																						

$$\begin{array}{l} \underline{1} \quad \underline{0} \Rightarrow \text{Decimal} \\ 1 \times 16^1 + 0 \times 16^0 \Rightarrow 16 \\ 10 \times 16^0 \Rightarrow 10 \end{array}$$

$$\begin{aligned} & 2 \times 16^1 + 6 \times 16^0 \\ & 32 + 6 = \boxed{38} \end{aligned}$$

26 ✓

Number system
Base 2s

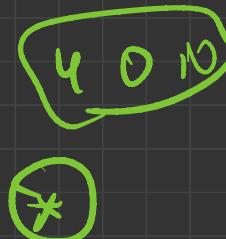
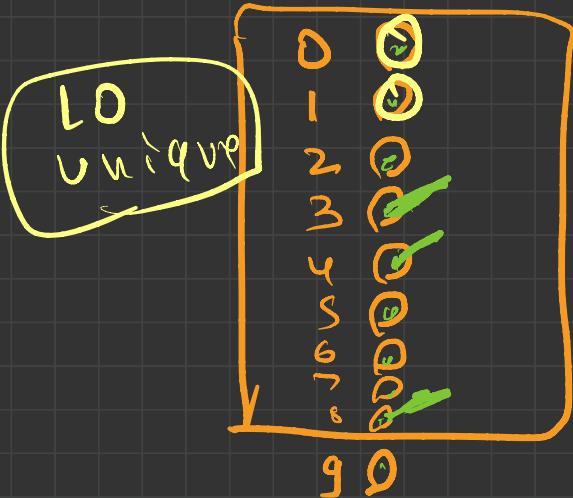
2s unique
char

[

].



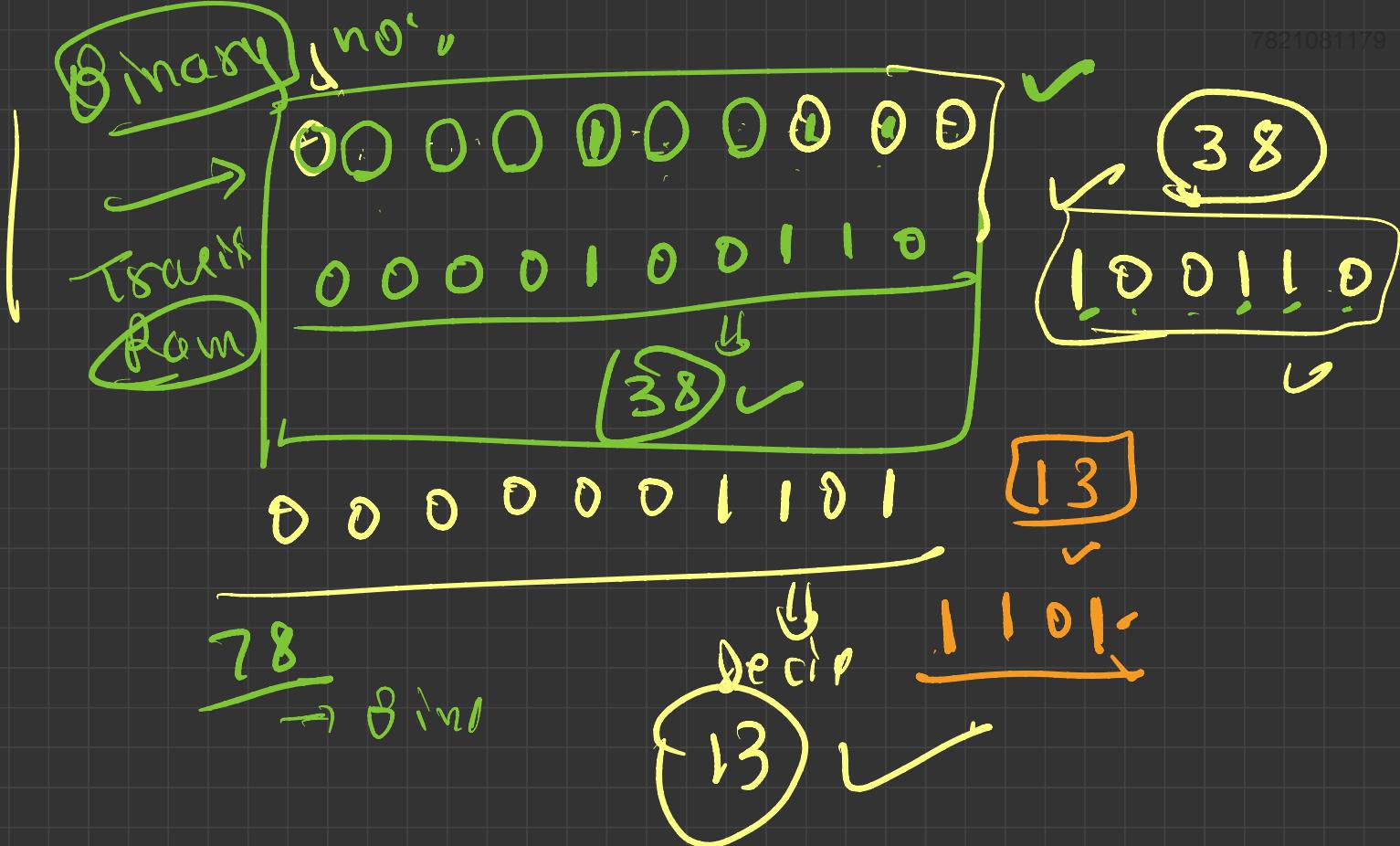
Transistor

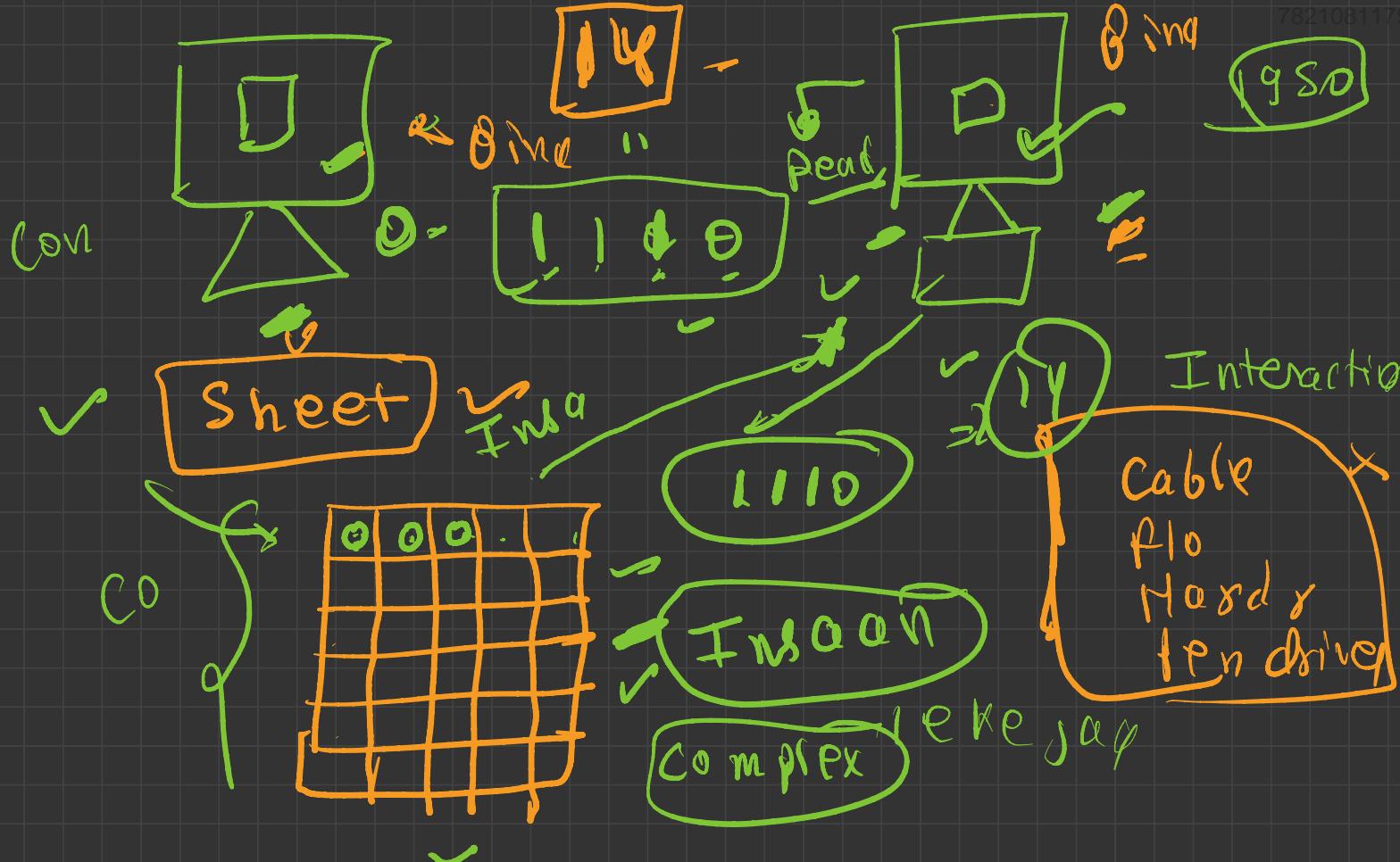


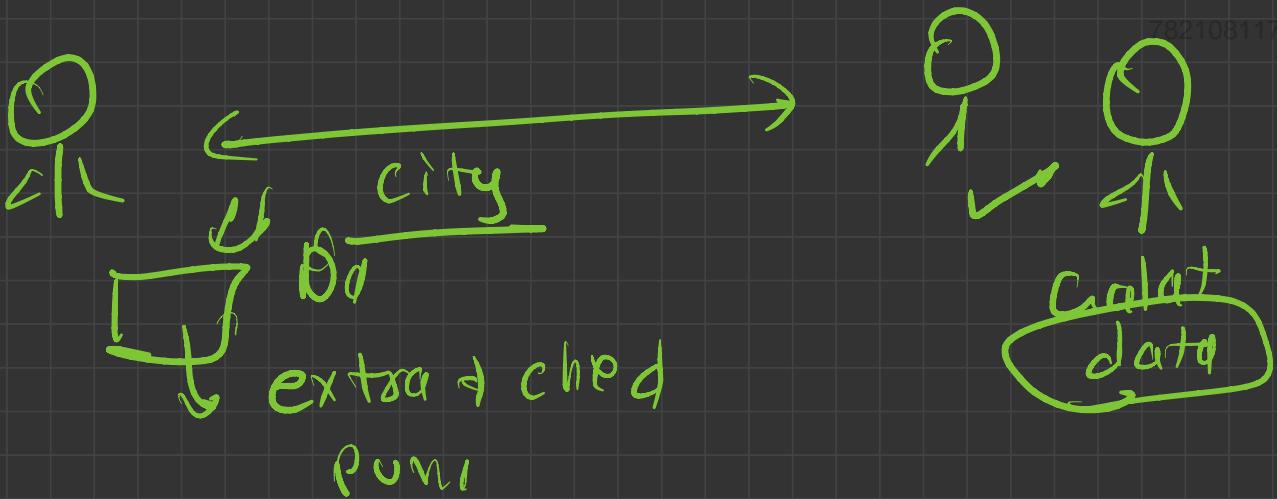
4

38

83







Next
Telephone → establish
US - RUSSIAN → Internet