

AXBOROTNI KODLASH

KODLAR DUNYOSIDA AXBOROTNI KODLASH
USULLARI KOORDINATALAR USLUBI





Ko'rinishi

Axborot **manbadan** qabul qiluvchi vositaga yetib borguncha har xil signal ko'rinishida bo'lishi mumkin



Signal

Axborot uzatish jarayoni to'liq bajarilishi uchun axborot qabul qiluvchi qabul qilgan signalni nafaqat qabul qilishi balki uni to'liq qismlarga ajrata olishi zarur



Kodlar

Uzatiladigan axborotni yoki signalni qabul qiluvchi va uzatuvchi o'rtasida kelishilgan kodlar asosida amalga oshirish zarur.

”

Kod – axborotni taqdim etishdagi shartli belgilar tizimi.

Kodlash – ma’lum kod asosida axborotni taqdim etish.



Matnli axborot

KITOB – o‘zbek tilida

BOOK – Ingliz tilida

BUCH – Nemis tilida

LIVRE – Fransuz tilida

Sonli axborot

12

– Arab raqamlarida
Yozilgan son

XII

– Rim raqamida
yozilgan son

𐎶𐎵

– Vavilon mixxatida
Yozilgan soz



Lui Brayl

Brayl~ko'zi ojizlar uchun axborot taqdim etish usulini
o'ylab topgan.

Qog'ozdagi bo'rttirilgan qavariqlar yordamida ko'zi
ojizlar harflarni ajrata oladi va matnlarni o'qiydi.



A	B	C	D	E	F	G
H	I	J	K	L	M	N
O	P	Q	R	S	T	U
V	W	X	Y	Z		

Kodlash uchun misol - 1

Oddiy kodlar jadvalida alifbodagi har bir harf uchun uning tartib raqami qo'yib chiqilgan.

A	B	D	E	F	G	H	I	J	K	L
01	02	03	04	05	06	07	08	09	10	11
M	N	O	P	Q	R	S	T	U	V	X
12	13	14	15	16	17	18	19	20	21	22
Y	Z	o'	g'	Sh	Ch	ng	'			
23	24	25	26	27	28	29	30			

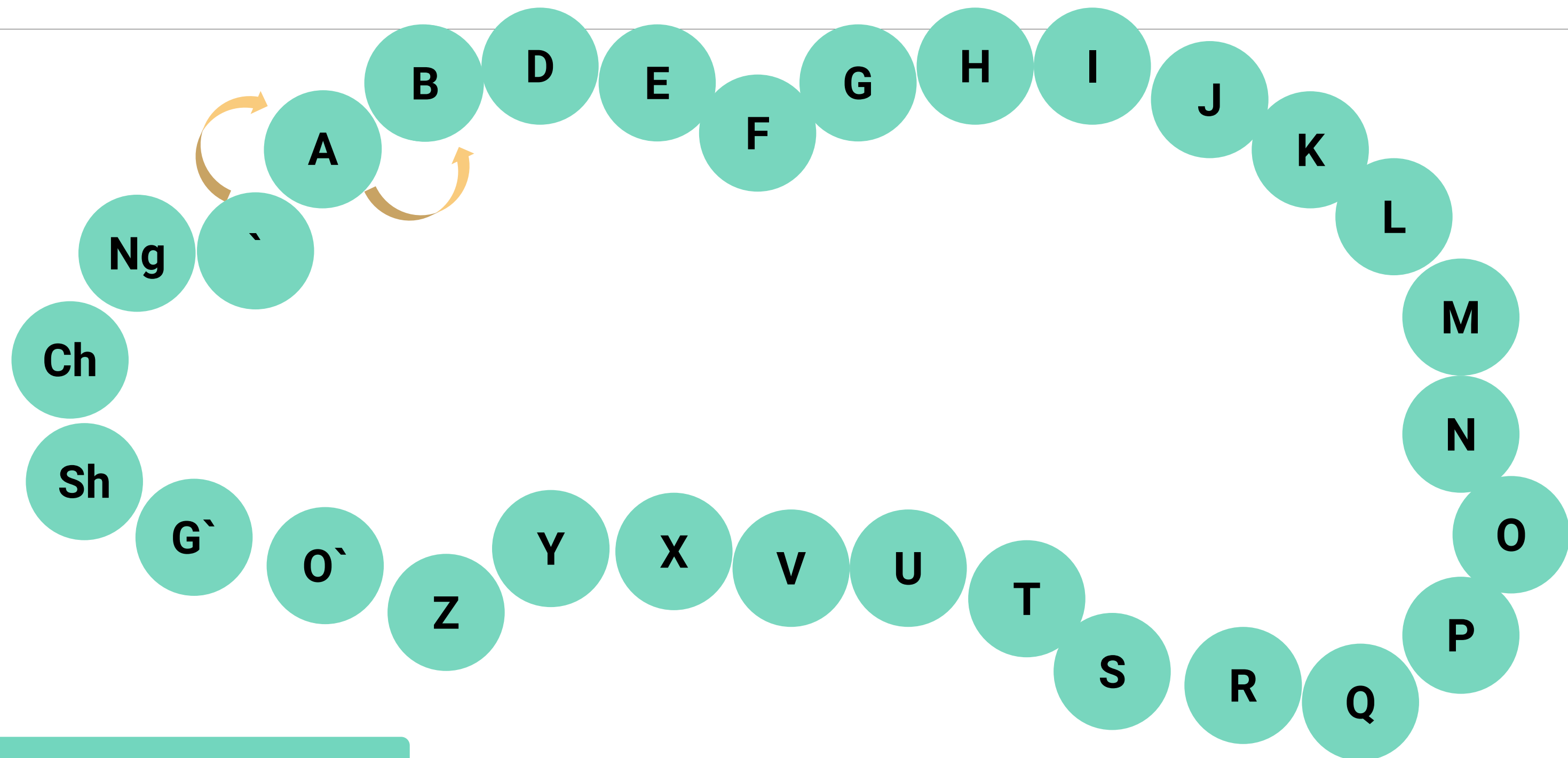
Tez aytishni
toping:

19 14 11 08 02 19 25 15 13 08 19 04 15 08 02 19 14 11 03 08

(Tolib to'pni tepib toldi)

Kod namunasi- 2

Matnni asl harflarini alifbodagi o'zidan keyin keladigan harf bilan almashtirish mumkin. Bunday kodlarni almashtirish shifr deyiladi.

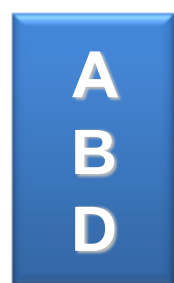
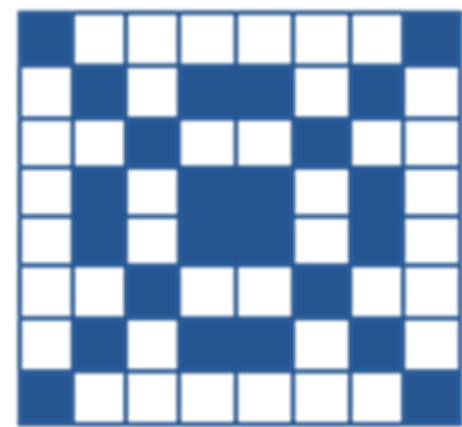


**Kodlangan
matn:**

JNGJEB SHJK-SHJK DJMJN, VOEB IBZPU ZBCHJSJO

(Ichida g'ij-g'ij bilim, unda hayot yashirin)

Kompyuter xotirasida axborot nol va bir, ikkilik kod asosida qurilgan zanjir sifatida beriladi.



1000 0001
0101 1010
0010 0100
0101 1010
0101 1010
0010 0100
0101 1010
1000 0001

1100 0000
1100 0001
1100 0010

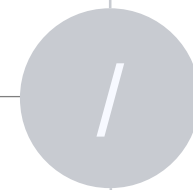
1111 1110



10101001100
00010011101
11100011100



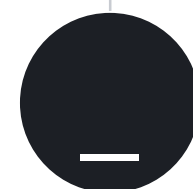
Axborotni kodlash usullari



**Bir xil axborot har xil
kodlanishi mumkin**



**Kodlash usuli kodlash maqsadiga
bog'liq ravishda amalga oshiriladi**

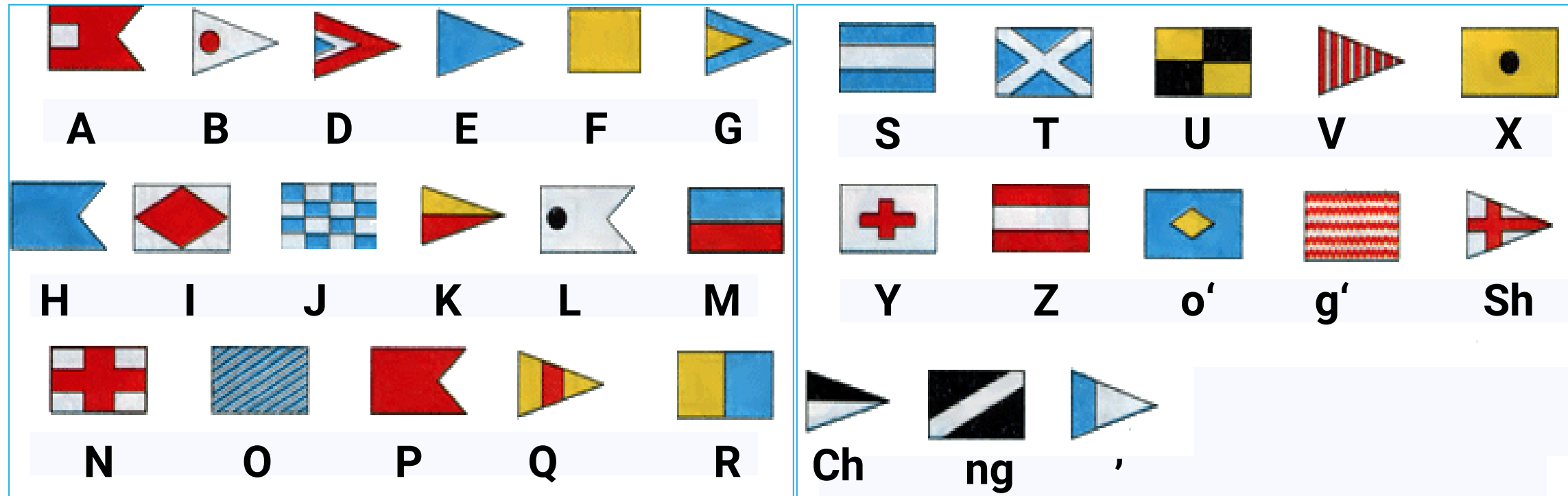


Asosiy kodlash usullari:

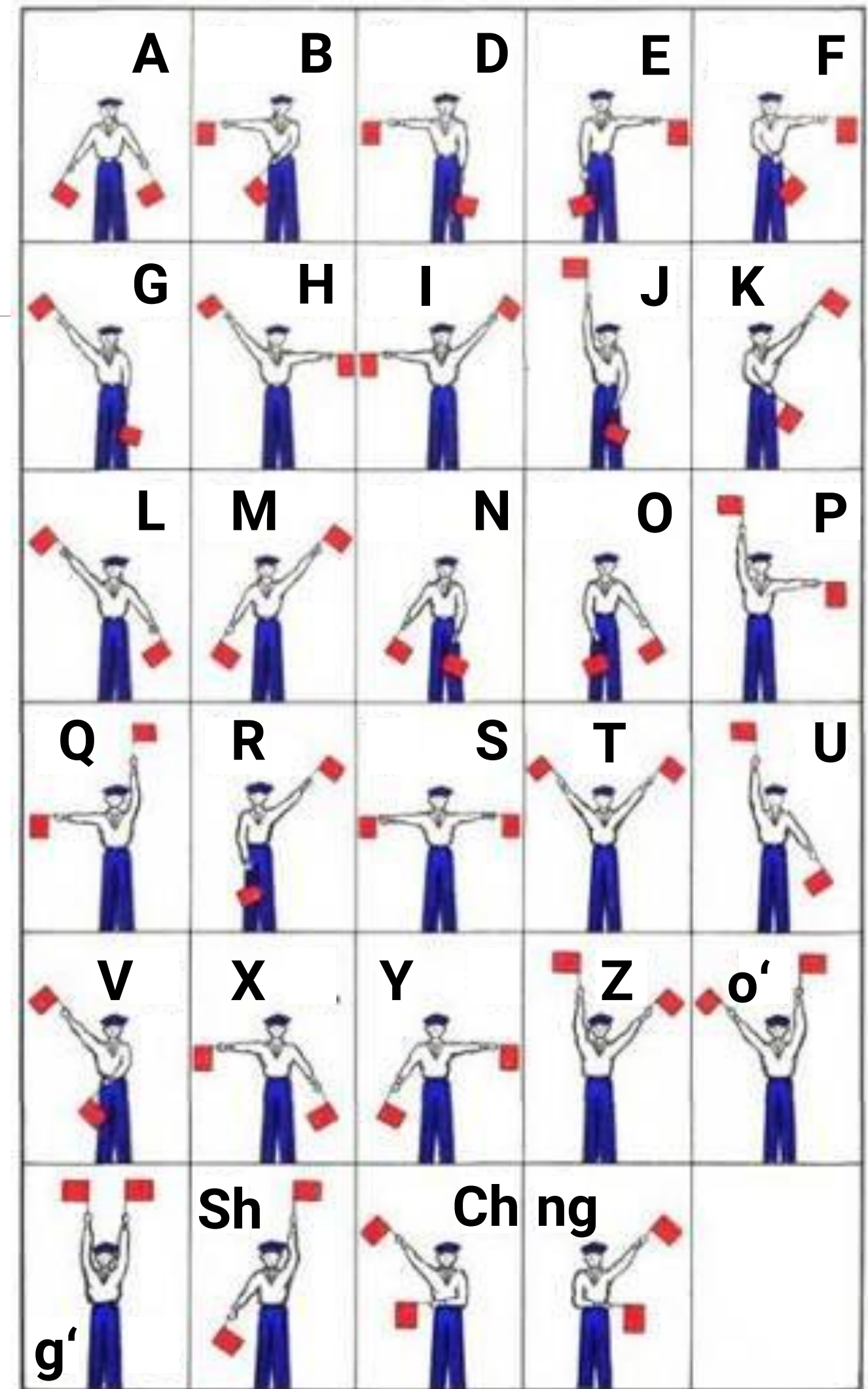
- **Grafik (rasm, belgilar)**
- **Sonli**
- **Shartli belgi**

+

Kod turlari



A • —	M • — • •	Y — • — •
B — • • •	N — —	Z — — — •
D • — —	O — •	o' — — — —
E — — •	P — — —	g' — — • —
F — • •	Q • — — •	Sh • — — • — •
G •	R • — •	Ch — • — —
H • • • —	S • • •	ng — • • —
I — — • •	T —	' • • — • •
J • •	U • • —	
K • — — —	V • • — •	
L — • —	X • • • •	



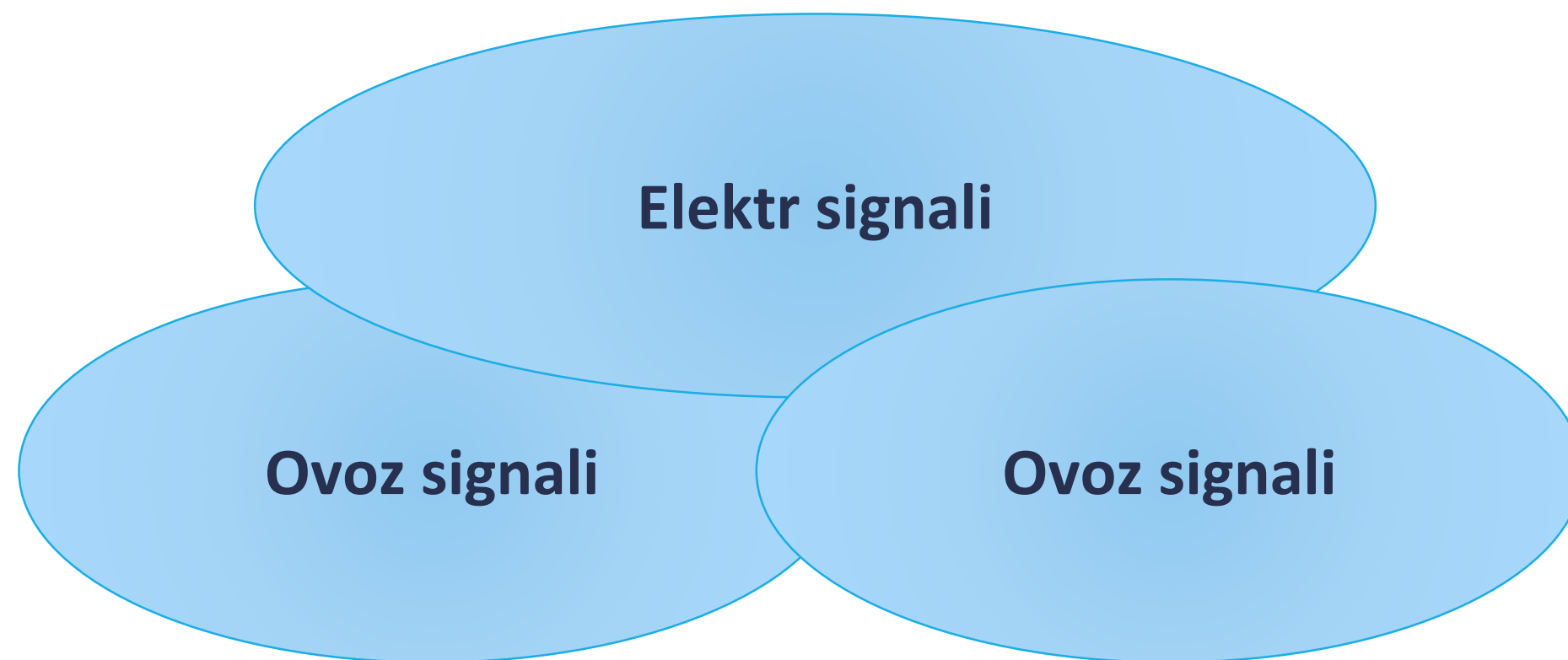
Kod namunasi- 2

Axborotni
dekodlash

Axborotni birlamchi shaklga qaytarish amali
dekodlash deyiladi



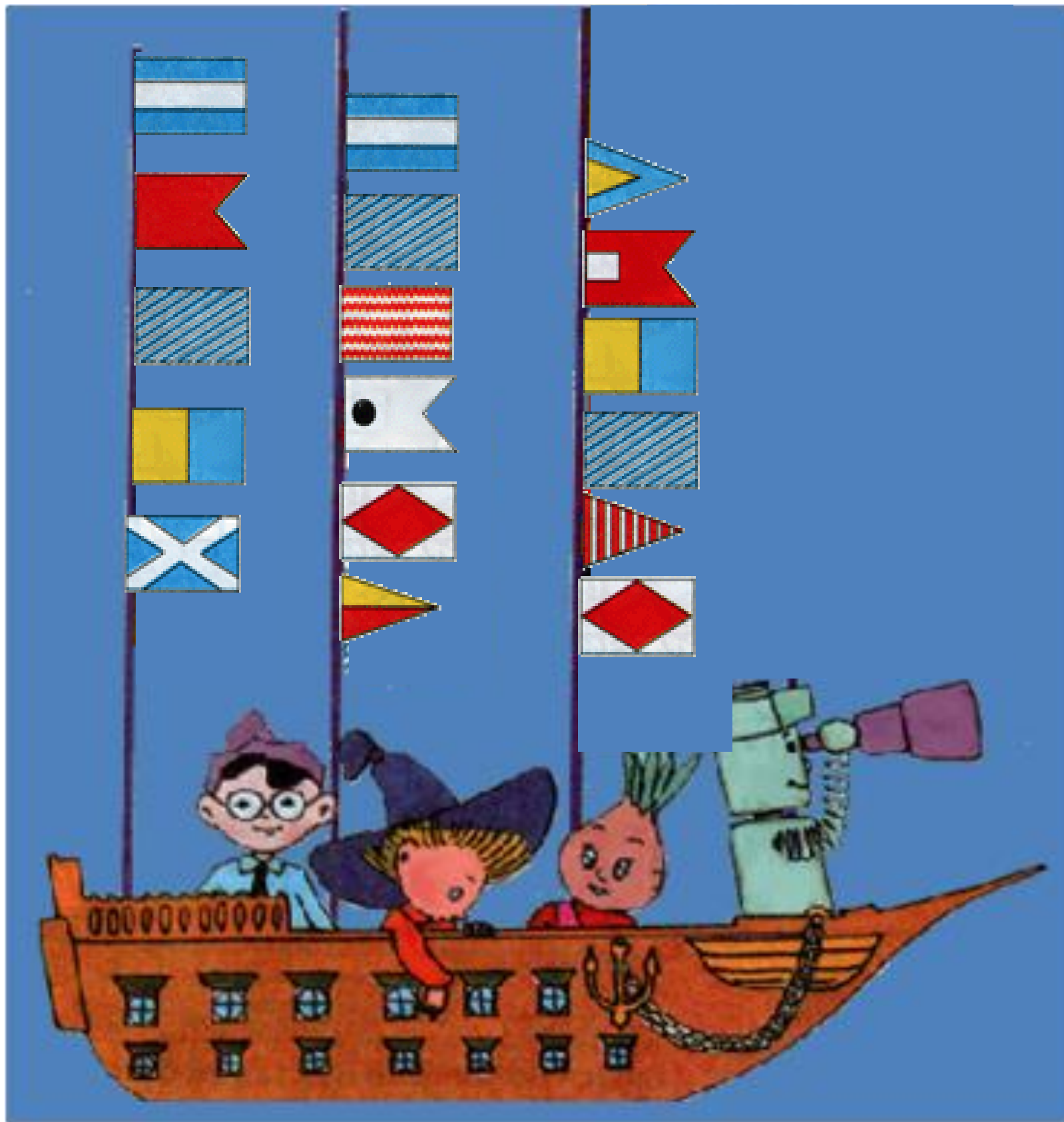
Kodlash



Dekodlash

Topshiriq - 1

Axborotni dekodlang



A	B	D	E	F	G
H	I	J	K	L	M
N	O	P	Q	R	
S	T	U	V	X	
Y	Z	o'	g'	Sh	
Ch	ng	,			

SPORT SOG'LIQ GAROVI

Topshiriq - 2

Jadvaldagi axborotni dekodlang. Har bir harfga bir juft son to'g'ri keladi.

1-son ustun raqami

2-son satr raqami

	1	2	3	4	5	6	7	8	9	10	11	12
1	A	B	D	E	F	G	H	I	J	K	L	Probel
2	M	N	O	P	Q	R	S	T	U	V	X	,
3	Y	Z	o'	g'	Sh	Ch	ng	'				.

Nazorat:

(3,1) (3,3) (7,2) (8,2) (11,1) (8,1) (10,1)

(Do'stlik)

Koordinatalar uslubi



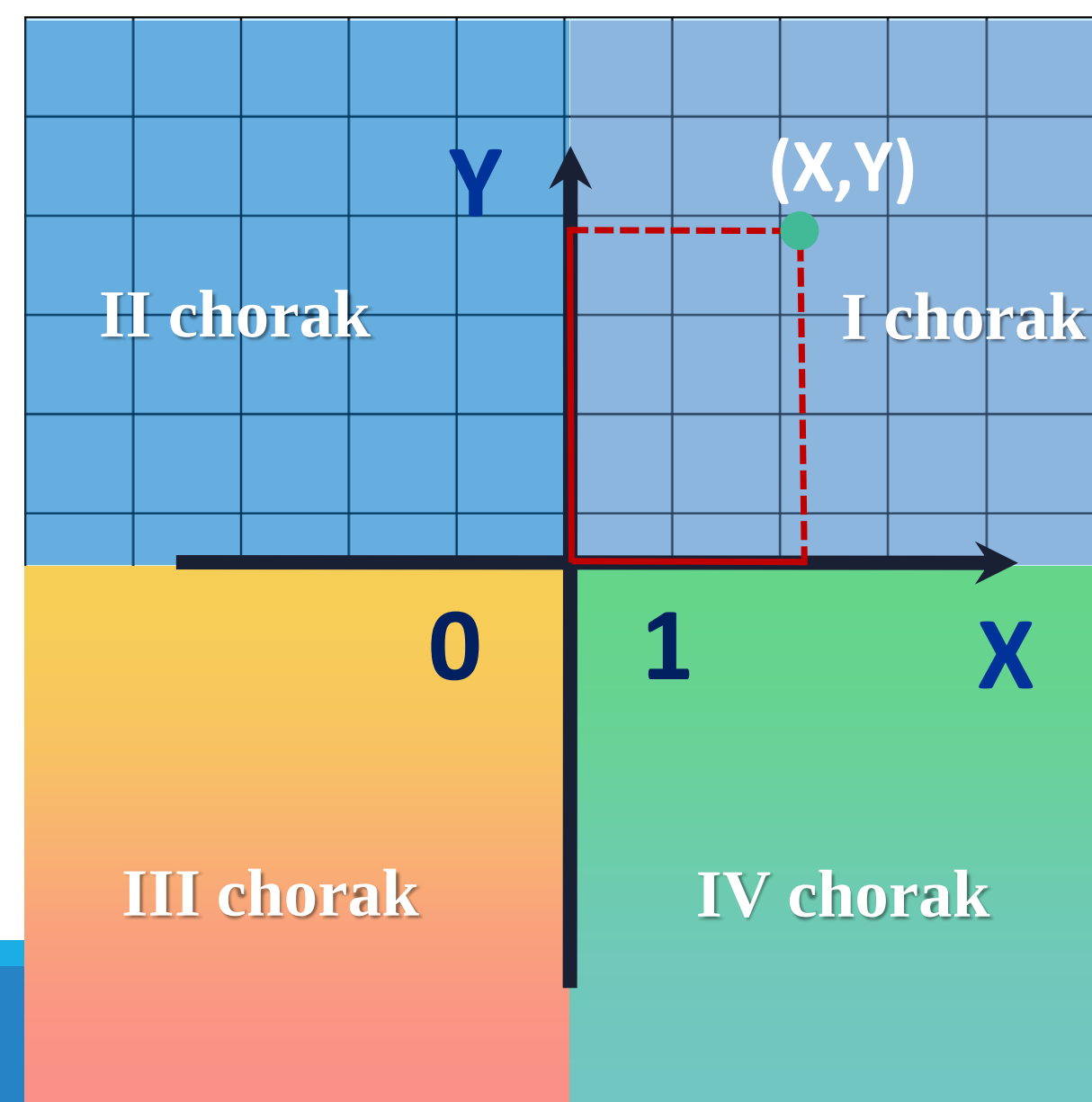
- Istalgan axborot sonlar orqali ifodalanishi mumkin. Sonlar va nuqtalarni birlashtirish uchun koordinatalar tizimidan foydalaniladi.
- To'g'ri chiziqlar koordinatasi fransuz olimi Rene Dekart nomiga qo'yilgan, dekart koordinatalar tizimi deb nomlanadi.

□ OX o'qi

□ Koordinata boshi

□ OY o'qi

□ (X, Y) – koordinatalar nuqtasi



Misol

Koordinatalar tekisligida

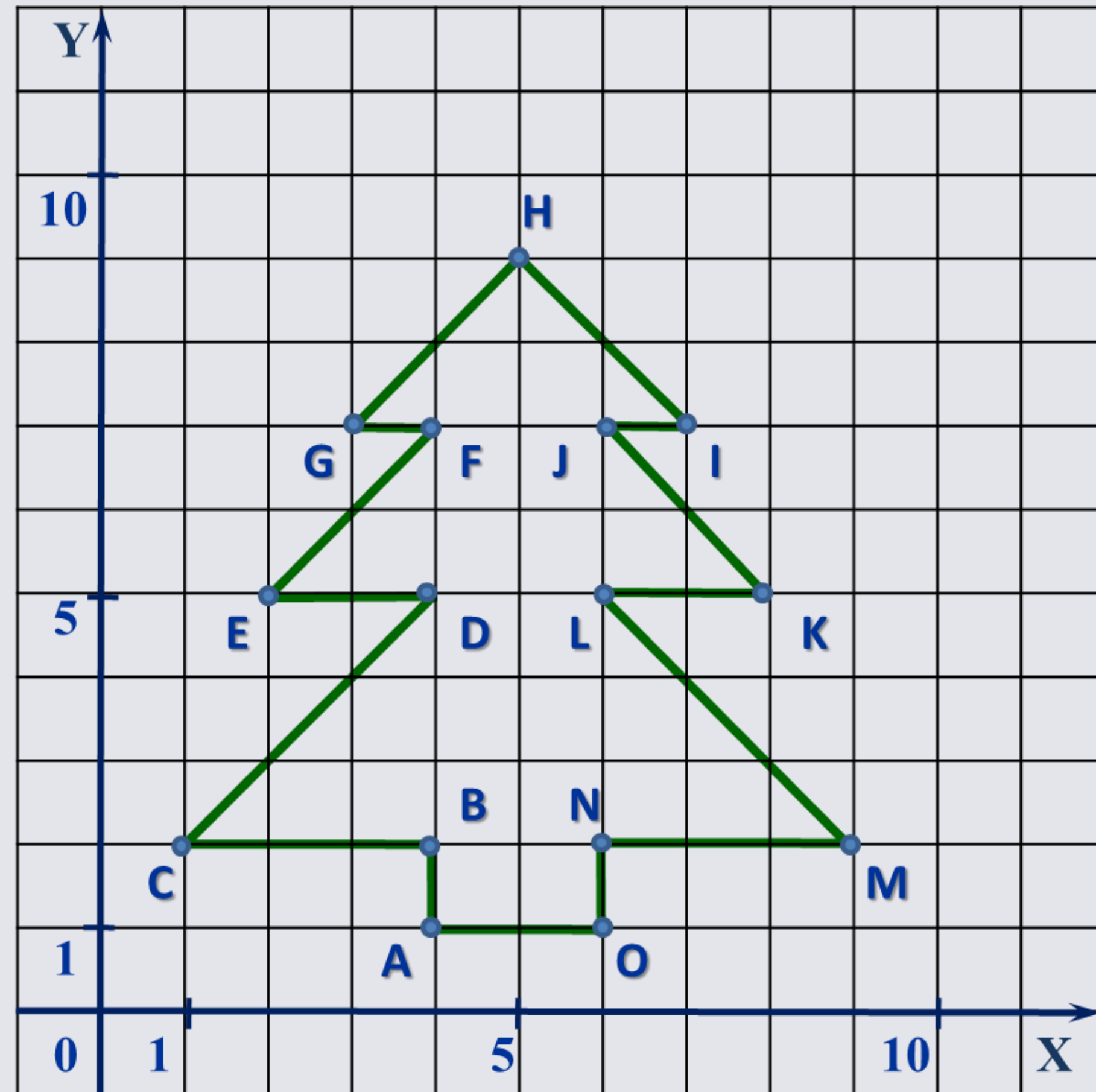
nuqtalarni belgilaymiz

A(4,1), B(4, 2), C(1, 2), D(4, 5), E(2, 5),
F(4, 7), G(3, 7), H(5, 9), I(7, 7), J(6, 7),
K(8, 5), L(6, 5), M(9, 2), N(6, 2), O(6, 1).

Olingan nuqtalarni kesmalar
sifatida birlashtiramiz:

A-B-C-D-E-F-G-H-I-J-K-L-M-N-O-A.

Xulosa: axborotni sonli usuldan grafik
usulda taqdim etishga erishildi.



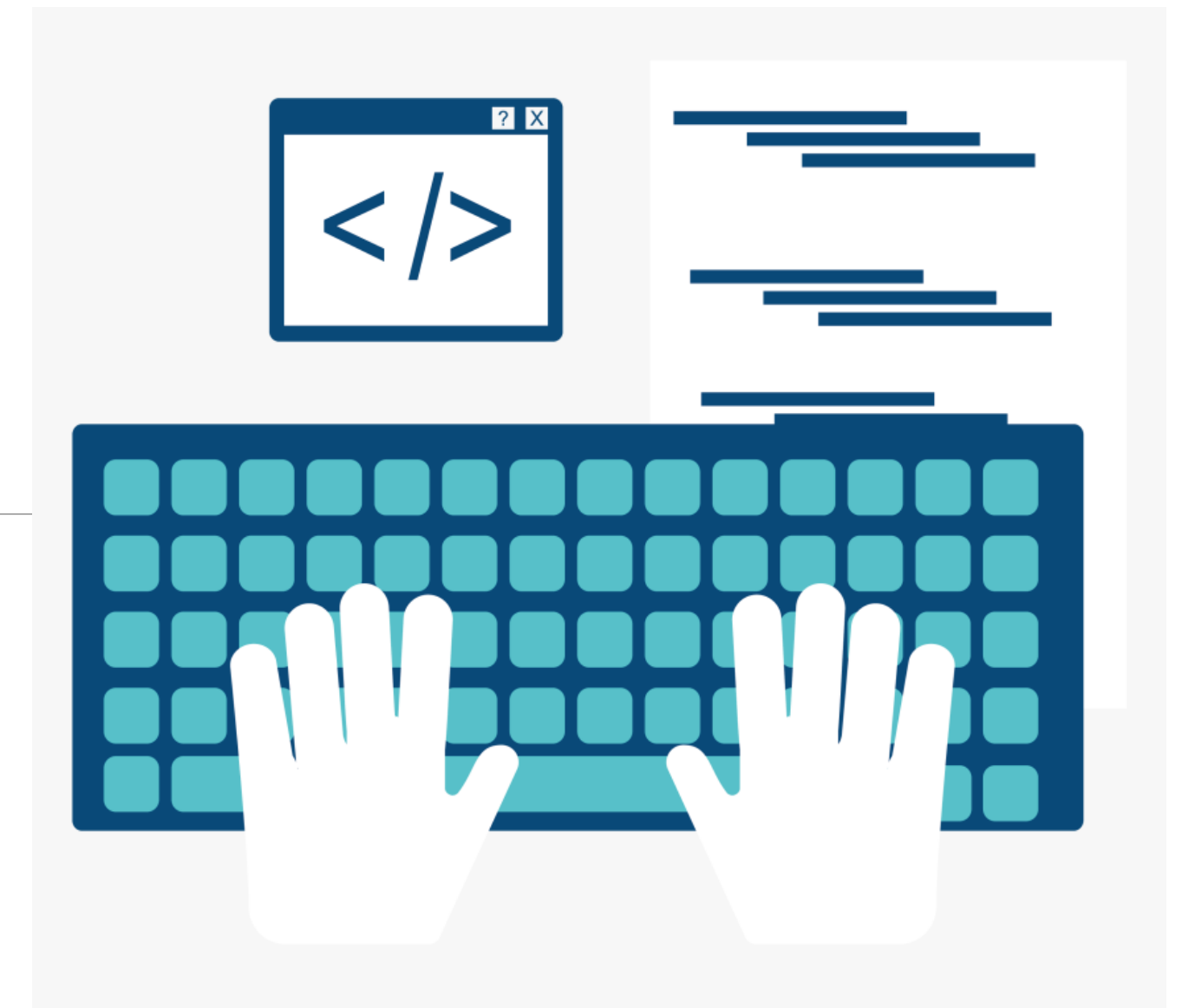
Bu qiziq

- Ma'lumotlarni avtomatik ravishda kodlash va dekodlash ishlarini maxsus qurilmalar yordamida amalga oshiriladi.



- 1940 yilda Angliyada ishlab chiqarilgan “Enigma” shifrlash mashinasi.

Uzatiladigan axborot, uzatish
manбайдan qabul qilish qurilmasiga
har xil shartli belgilar va kodlar orqali
uzatilishi mumkin.



KOD

Axborotni taqdim
etishdagi shartli belgilar
tizimi.

/ KODLASH

ma'lum kod asosida
axborotni taqdim
etish

DEKODLASH

Axborotni birlamchi
shaklga qaytarish
amali.

Savol va topshiriqlar

1. Rebusni yeching:



Savol va topshiriqlar

2. Axborotni taqdim etish usuli bo'yicha qaysi turdagi belgilardan foydalaniladi:

- arifmetik misollarni yozish;
- musiqa yozish;
- ovoz yozish;
- ob-havoning kalendardagi ifodasi;
- transport harakatini boshqarish?

Savol va topshiriqlar

3. Quyidagi arifmetik misolni so'zlar yordamida ifoda eting:

$$\frac{1+2+3+4+5}{10-7} = 5$$

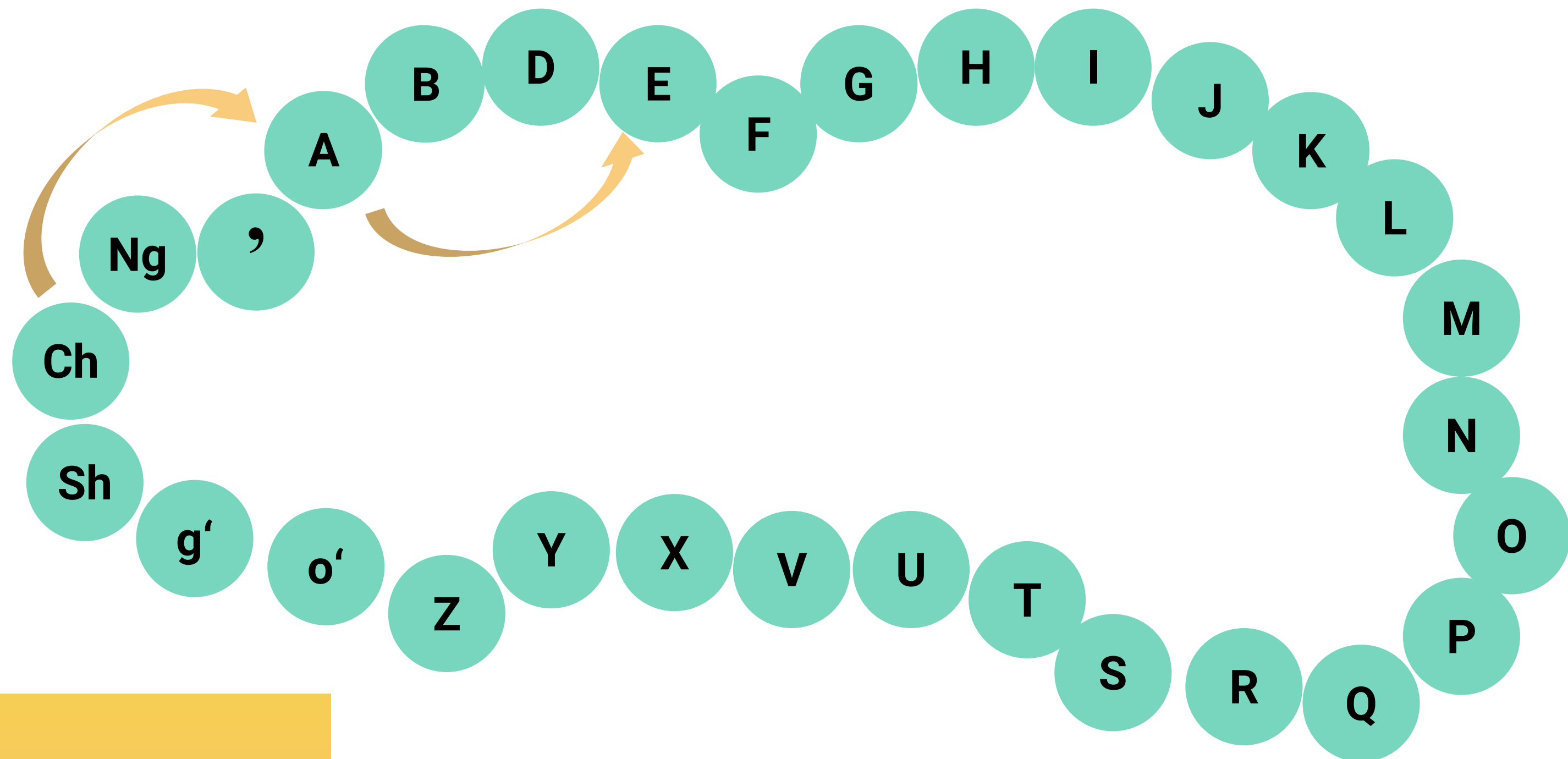
Savol va topshiriqlar

4. Ismingizni har bir harfini jadvaldagi kodlar asosida sonlarda ifoda eting!

A	B	D	E	F	G	H	I	J	K	L
01	02	03	04	05	06	07	08	09	10	11
M	N	O	P	Q	R	S	T	U	V	X
12	13	14	15	16	17	18	19	20	21	22
Y	Z	o'	g'	Sh	Ch	ng	'			
23	24	25	26	27	28	29	30			

Savol va topshiriqlar

5. Matnning asl nusxasidagi harflar quyidagi alifbo asosida, alifbodagi harfdan keyin keluvchi uchinchi harf bilan almashtirilgan.



**Xabarni
o'qing**

PMLOQ NFOLIF - ZChTJChQ

(Sport qiroli - shaxmat)

Savol va topshiriqlar

6. Har bir harf uchun bir juft son kombinatsiyasi berilgan:

1-son ustun raqami

2-son satr raqami

	1	2	3	4	5	6	7	8	9	10	11	12
1	A	B	D	E	F	G	H	I	J	K	L	Probel
2	M	N	O	P	Q	R	S	T	U	V	X	,
3	Y	Z	o'	g'	Sh	Ch	ng	'				.

Nazorat:

(1,2) (8,1) (10,1) (6,2) (3,2) (7,2) (3,2) (5,1) (8,2)

(Mikrosoft)

Savol va topshiriqlar

7. Geografiyada koordinatalar uslubidan qanday foydalaniladi?

8. Koordinatalar uslubidan uy sharoitida qaysi holatlarda duch kelasiz?



KODLANGAN KAYFIYAT

