# RRB ALP CBT-I 2024 Official Paper (Held On: 25 Nov, 2024 Shift 1) (Previous Year Paper)

RRB Assistant Loco Pilot (ALP) • 2024 • 75 questions • 60 minutes • Answer key

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## STAGE I (CBT I)

**Q1.** Below is a question, followed by two reasons labeled as 1 and 2. Read the question carefully and analyze the given reasons to determine their relevance/completeness/justification.

Question:

On 14th June 2023, long queues were observed at the electricity bill payment counters in city X.

Reasons:

1. The deadline for paying electricity bills for City X is the 15th of every month.
2. Due to server failure, many individuals were unable to pay their electricity bills online in June 2023.

**(a)** Neither 1 or 2 are the incorrect reasons.
**(b)** Both 1 and 2 are the correct reasons.
**(c)** Only 1 is the correct reason.
**(d)** Only 2 is the correct reason.

**Q2.** Select the pair which follows the same pattern as that followed by the two pair given below. Both pairs follow the same pattern.

FIND : URMW

BENT : YVMG

**(a)** FILE: VROV
**(b)** HERO: SVIL
**(c)** BEAD: YVYW
**(d)** SAID: HZRV

**Q3.** Particles of matter are continuously moving due to their:

**(a)** nuclear energy
**(b)** kinetic energy
**(c)** chemical energy
**(d)** mechanical energy

**Q4.** Which of the following statements is/are related to ecosystem?

(i) It consists of biotic components comprising living organisms.

(ii) All green plants and certain bacteria are producers.

(iii) Decomposers break-down complex organic into simple organic substance.

**(a)** Only (i) and (iii)
**(b)** (i), (ii) and (iii)
**(c)** Only (i) and (ii)
**(d)** Only (i)

**Q5.** Electric devices like laundry iron, electric toaster, electric oven, electric kettle and electric heater are based on which effect of electric current?

**(a)** Chemical effect
**(b)** Magnetic effect
**(c)** Physiological effect
**(d)** Heating effect

**Q6.** In which year did the Delhi High Court issue a notice regarding a plea for 33% reservation for women lawyers in Bar Council elections?

**(a)** 2023
**(b)** 2021
**(c)** 2024
**(d)** 2022

**Q7.** A man loses 20% of his money. After spending 25% of the remaining amount, he has Rs. 480 left. What is the amount of money he originally had?

**(a)** Rs. 800
**(b)** Rs. 600
**(c)** Rs. 720
**(d)** Rs. 840

**Q8.** The average of the first 25 multiples of 3 is:

**(a)** 39
**(b)** 36
**(c)** 30
**(d)** 25

**Q9.** If 9.6 : 16.8 :: 18 : x, what is the value of x?

**(a)** 20.4
**(b)** 25.5
**(c)** 24.8
**(d)** 31.5

**Q10.** The Government of India has come out with a new set of National Awards in the field of Science, Technology and Innovation known as 'Rashtriya Vigyan Puraskar' in _____ categories.

**(a)** two
**(b)** four
**(c)** three
**(d)** five

**Q11.** The amount of force needed to accelerate a 10 kg mass at 2.5m/s² is _____.

**(a)** 4 N
**(b)** 7.5 N
**(c)** 25 N
**(d)** 12.5 N

**Q12.** A 3-digit number is such that its units' digit, tens' digit and hundreds' digit are in the ratio 2 : 3 : 4. The sum of this number and the number obtained by reversing its digits is 1332. Find the positive difference between the 3-digit number and the number formed by reversing its digit.

**(a)** 594
**(b)** 323
**(c)** 396
**(d)** 414

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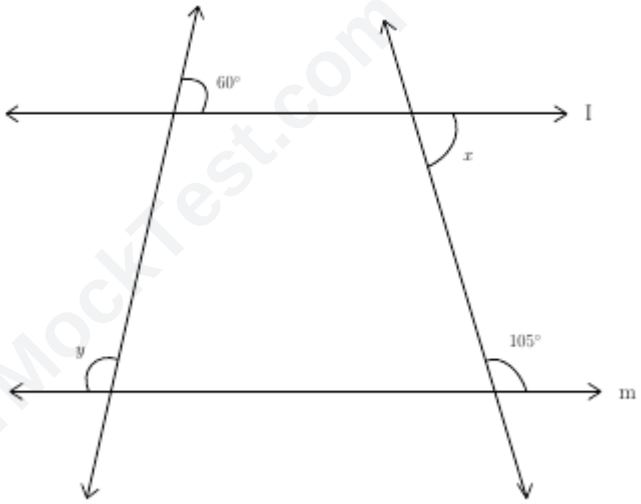
**Q13.** In case of jelly, which of the following is the dispersed phase?

**(a)** Both solid and liquid phases
**(b)** Gas phase
**(c)** Solid phase
**(d)** Liquid phase

**Q14.** If $x + 1/x = 5$, then $x^2 + 1/(x^2) = ?$

**(a)** 25
**(b)** 24
**(c)** 23
**(d)** 26

**Q15.** In the adjoining figure line l is parallel to line m. What is the value of (x + 2y) ?




**(a)** 340°
**(b)** 225°
**(c)** 270°
**(d)** 315°

**Q16.** Who among the following is the author of the book 'The Miracle Makers: Indian Cricket's Greatest Epic'?

**(a)** Hrushikesh Kanitkar
**(b)** Bharat Sundaresan
**(c)** Sunil Joshi
**(d)** Shiv Sundar Das

**Q17.** In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is same as that on the right side of ::?

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

X : 679 :: 864 : Y

**(a)** X = 825, Y = 718
**(b)** X = 812, Y = 756
**(c)** X = 834, Y = 704
**(d)** X = 898, Y = 649

**Q18.** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

BEV, FIR, JMN, NQJ, RUF, ?

**(a)** TUS

**(b)** VYB
**(c)** YVB
**(d)** STU

**Q19.** If the force of attraction between the earth and an apple separated by distance 'x' is 'F', then the force acting on the same apple kept at a distance '2x' will be _____.

**(a)** F/2
**(b)** F/4
**(c)** 4F
**(d)** 2F

**Q20.** Which of the following is the characteristics of striated muscles?

**(a)** cylindrical, branched and multinucleate
**(b)** spindle-shaped, unbranched and multinucleate
**(c)** spindle-shaped, unbranched and uninucleate
**(d)** cylindrical, unbranched and multinucleate

**Q21.** In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is the same as that on the right side of ::?

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

X : 346 :: 9 : Y

**(a)** X = 8, Y = 756
**(b)** X = 5, Y = 612
**(c)** X = 7, Y = 732
**(d)** X = 6, Y = 729

**Q22.** Seven boxes A, B, C, D, E, F and G are kept one over the other but not necessarily in the same order. D is kept third from the bottom. Only one box is kept between F and A. Only three boxes are kept between G and E. B is kept immediately above F. E is kept on one of the positions above D.

How many boxes are kept between E and C?

**(a)** One
**(b)** None
**(c)** Two
**(d)** Three

**Q23.** Refer to the given number and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) 2 & % 4 6 @ & 3 Ω 9 # 1 * 8 £ 6 1 7 # (Right)

How many such symbols are there, each of which is immediately preceded by an even number and also immediately followed by an even number?

**(a)** None
**(b)** One
**(c)** Two
**(d)** More than two

**Q24.** At a particular time during the day, owing to the position of the sun, a 6 feet tall man casts a shadow of 4 feet, whereas a pole next to the man casts a shadow of 36 feet. What is the height of the pole?

**(a)** 56 feet
**(b)** 54 feet
**(c)** 63 feet
**(d)** 60 feet

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**Q25.** Which of the following options represents metals that do NOT react with cold water?

**(a)** Sodium, calcium and zinc
**(b)** Sodium, iron and potassium
**(c)** Sodium, calcium and potassium
**(d)** Aluminium, iron and zinc

**Q26.** In a certain code language, ‘FROM’ is coded as ‘4935’ and ‘MORE’ is coded as ‘3154’. What is the code for ‘E’ in the given code language?

**(a)** 5
**(b)** 1
**(c)** 9
**(d)** 3

**Q27.** Which Indian personality played the female protagonist in the movie Sister Midnight, showcased at the Cannes Film Festival in 2024?

**(a)** Radhika Apte
**(b)** Kriti Sanon
**(c)** Aditi Rao Hydari
**(d)** Taapsee Pannu

**Q28.** ZX is related to AC in a certain way. In the same way, US is related to FH. To which of the following options is PN related, following the same logic?

**(a)** KO
**(b)** LM
**(c)** KM
**(d)** ML

**Q29.** Study the given graph and answer the question that follows.

The graph shows the number of employees who used different modes of transport in the year 2010.

What is the respective ratio between the number of employees who used Bike to the number of employees who used Metro?

**(a)** 4:5
**(b)** 2:1
**(c)** 3:2
**(d)** 5:2

**Q30.** If each vowel in the word CONSTRUCTION is changed to the letter following it in the English alphabetical order and each consonant is changed to the letter preceding it in the English alphabetical order, then which of the following letters will be sixth from the right in the group of letter thus formed?

**(a)** S
**(b)** B
**(c)** Q
**(d)** V

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**Q31.** Select the number from among the given options that can replace the question mark (?) in the following series.

26 78 36 108 66 198 ?

**(a)** 128
**(b)** 164
**(c)** 142
**(d)** 156

**Q32.** Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster does not belong to that group?

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter cluster.)

**(a)** JMR
**(b)** KNS
**(c)** EHM
**(d)** RUY

**Q33.** Which natural disaster triggered storms, flash floods, and landslips in the northeastern states of India in 2024?

**(a)** Cyclone Remal
**(b)** Cyclone Yaas
**(c)** Cyclone Amphan
**(d)** Cyclone Fani

**Q34.** Which of the following numbers is divisible by 11?

**(a)** 9248164
**(b)** 7247564
**(c)** 9246864
**(d)** 8245964

**Q35.** Traits can be influenced by:

**(a)** by both paternal DNA and maternal DNA
**(b)** only paternal DNA
**(c)** only maternal DNA
**(d)** only maternal grandparent DNA

**Q36.** Find the compound interest on Rs. 11,000 in 2 years at 4% p.a., interest compounded yearly.

**(a)** Rs. 875.80
**(b)** Rs. 906.50
**(c)** Rs. 786.60
**(d)** Rs. 897.60

**Q37.** If 'I' stands for '+', 'J' stands for '×', 'K' stands for '÷', and 'L' stands for '-', what will come in place of the question mark '?' in the following equation?

38 I (3 J 4) L (16 K 2) I 11 =?

**(a)** 34
**(b)** 47
**(c)** 61
**(d)** 53

**Q38.** A, B, C, D, E and F are sitting around a circular table facing the centre. B sits second to the right of D. A is an immediate neighbour of E and C. E sits second to the left of F. What is the position of F with respect to B?

**(a)** Third to the right
**(b)** Immediate right
**(c)** Immediate left
**(d)** Second to the left

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**Q39.** A car covers four successive 3 km stretches at speeds of 10 km/h, 20 km/h, 30 km/h and 60 km/h, respectively. Its average speed over this distance is:

**(a)** 30 km/h
**(b)** 15 km/h
**(c)** 20 km/h
**(d)** 25 km/h

**Q40.** A series of compounds in which the same functional group substitutes for hydrogen in a carbon chain is called _____.

**(a)** catenation
**(b)** isomers
**(c)** heterologous series
**(d)** homologous series

**Q41.** Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and decide which conclusion(s) logically follow(s) from the given statements.

Statements:

All fishes are birds.

All birds are animals.

Conclusions:

(I) All animals are fishes.

(II) Some birds are fishes.

**(a)** Both conclusions (I) and (II) follow.
**(b)** Only conclusion (II) follows.
**(c)** Neither conclusion (I) nor (II) follows.
**(d)** Only conclusion (I) follows.

**Q42.** Cranial nerves arising from the brain and spinal nerves arising from the spinal cord together constitute the:

**(a)** peripheral nervous system
**(b)** autonomic nervous system
**(c)** central nervous system
**(d)** endocrine system

**Q43.** If the HCF and the LCM of two numbers are 7 and 245, respectively, then their product is:

**(a)** 1517
**(b)** 1175
**(c)** 1751
**(d)** 1715

**Q44.** The atomic number of an atom is equal to the:

**(a)** total number of protons present in the nucleus of an atom
**(b)** sum of the number of electrons and that of neutrons
**(c)** half of the number of electrons present in the nucleus of an atom
**(d)** sum of the number of protons and that of neutrons

**Q45.** In a certain code language,

A + B means "A is the brother of B"

A - B means "A is the son of B"

A × B means "A is the wife of B"

A ÷ B means "A is the father of B"

Based on the above, how is Q related to S if "P - Q ÷ R × S + T

**(a)** Husband's brother
**(b)** Wife's father

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**(c)** Wife's brother
**(d)** Father

**Q46.** Evaluate the given expression.

$2^3 \times (-9)^0 \times 3^3$

**(a)** 81
**(b)** 216
**(c)** 36
**(d)** 9

**Q47.** If each vowel in the word REALISM is changed to the letter following it in the English alphabetical order and each consonant is changed to the letter following it in the English alphabetical order and then arrange in reverse order of English alphabetical order, then which of the following letters will be fourth from the left in the group of letter thus formed?

**(a)** N
**(b)** F
**(c)** J
**(d)** M

**Q48.** In a certain code language, 'NUMB' is coded as '4618' and 'BUNT' is coded as '6438'. What is the code for 'T' in the given code language?

**(a)** 8
**(b)** 3
**(c)** 6
**(d)** 4

**Q49.** A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3,200. With the help of C, they completed the work in 3 days. How much is to be paid to C?

**(a)** Rs. 800
**(b)** Rs. 400
**(c)** Rs. 375
**(d)** Rs. 600

**Q50.** A shopkeeper provides successive discounts of 5% and 4%, which are equivalent to a single discount of ____

**(a)** 9%
**(b)** 8%
**(c)** 9.20%
**(d)** 8.80%

**Q51.** A triangle has sides of length 5 cm, 7 cm and 10 cm. Find the area of the triangle (in $cm^2$).

**(a)** $2\sqrt{66}$
**(b)** 7/10
**(c)** 25
**(d)** 350

**Q52.** Select the correct balanced reaction for $CuO + NH_3 \rightarrow Cu + N_2 + H_2O$.

**(a)** $2CuO + 3NH_3 \rightarrow 3Cu + N_2 + 3H_2O$
**(b)** $3CuO + 2NH_3 \rightarrow 3Cu + 2N_2 + 3H_2O$
**(c)** $3CuO + 2NH_3 \rightarrow 3Cu + N_2 + 3H_2O$
**(d)** $3CuO + 2NH_3 \rightarrow 3Cu + N_2 + 4H_2O$

**Q53.** Who among the following created the record in the boys' 1500m by completing the race in 3:51.12 mins at the 6th Khelo India Youth Games?

**(a)** Adi Sharma
**(b)** Jay Kumar Verma
**(c)** Rahul Iyer

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**(d)** Rahul Sarnaliya

**Q54.** Water flows into a tank having the dimensions of its base given as 200 m × 150 m through a rectangular pipe having dimensions given as 1.5 m × 1.25 m @ 20 kmph. In what time (in minutes) will the water rise by 2 meters?

**(a)** 234
**(b)** 96
**(c)** 540
**(d)** 72

**Q55.** Which two numbers should be interchanged to make the given equation correct?

21 × 4 + (84 ÷ 7) × 2 – 15 × 5 + 42 = 105

(Note: Interchange should be done of entire number and not individual digits of a given number.)

**(a)** 4 and 2
**(b)** 84 and 42
**(c)** 4 and 5
**(d)** 7 and 21

**Q56.** Match the following:

| Question | Option |
|---|---|
| (i) The swollen bottom part of the pistil is | (a) stigma |
| (ii) The middle elongated part of the pistil is | (b) ovule |
| (iii) The terminal part of the pistil is | (c) ovary |
| (iv) The ovary contains | (d) style |

**(a)** (i) - (c), (ii) - (d), (iii) - (a), (iv) - (b)
**(b)** (i) - (a), (ii) - (d), (iii) - (c), (iv) - (b)
**(c)** (i) - (b), (ii) - (c), (iii) - (a), (iv) - (d)
**(d)** (i) - (c), (ii) - (b), (iii) - (a), (iv) - (d)

**Q57.** Twinkling of stars is related to the phenomenon of _____.

**(a)** interference of light
**(b)** reflection of light
**(c)** refraction of light
**(d)** dispersion of light

**Q58.** Seven people, B, C, D, E, F, G, and K, are sitting in a straight line, facing north. Only three people sit to the left of B. Only K sits to the right of G. Only three people sit between G and D. C sits at some place to the left of F but at some place to the right of E.

How many people sit between E and F?

**(a)** One
**(b)** Four
**(c)** Three
**(d)** Two

**Q59.** In which state is the Gingee Fort, which was recently nominated for the UNESCO World Heritage status, located?

**(a)** Gujarat
**(b)** Rajasthan
**(c)** Karnataka
**(d)** Tamil Nadu

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**Q60.** In the Union Budget 2024, which initiative did the Finance Minister announce to enhance productivity in agriculture?

**(a)** Introduction of genetically modified crops
**(b)** Expansion of irrigation facilities nationwide
**(c)** A new subsidy program for farmers
**(d)** A comprehensive review of the agriculture research setup

**Q61.** Brinda starts from Point A and drives 19 km towards West. She then takes a left turn, drives 22 km, turns left and drives 25 km. She takes a final left turn, drives 22 km and stops at Point P. How far (shortest distance) and towards which direction should she drive to reach Point A again? (All turns are 90 degrees turns only unless specified.)

**(a)** 7 km towards the West
**(b)** 7 km towards the South
**(c)** 6 km towards the West
**(d)** 6 km towards the East

**Q62.** The average height of 50 pupils in a class is 150 cm. Five of them whose average height is 146 cm, leave the class, and five others whose average height is 156 cm, join. The new average height of the pupils of the class (in cm) is _____.

**(a)** 152
**(b)** 153
**(c)** 151
**(d)** 149

**Q63.** Which of the following is produced when hydrochloric acid reacts with water?

**(a)** Both H3O^+ and Cl^-
**(b)** Both HO^- and Cl^-
**(c)** Only Cl^-
**(d)** Only H3O^+

**Q64.** In the case of reflection of the light from a convex mirror, when a parallel beam of light is incident on the reflecting surface, reflected light _____.

**(a)** appears to converge at the principal focus
**(b)** appears to diverge from the principal focus
**(c)** appears to converge at the centre of curvature
**(d)** appears to diverge from the centre of curvature

**Q65.** The sum of two numbers is 36. Five times one number is equal to 4 times the other. The greater of the two numbers is:

**(a)** 20
**(b)** 12
**(c)** 16
**(d)** 15

**Q66.** Which of the following devices does NOT utilise the magnetic effects of electric current?

**(a)** Magnetic compass
**(b)** Electric generator
**(c)** Electric motor
**(d)** Microphone

**Q67.** A person buys some oranges at the rate of 3 oranges per rupee and the same number of oranges at the rate of 2 oranges per rupee. At what price per dozen should he sell them to make a profit of 20%?

**(a)** Rs. 7
**(b)** Rs. 4
**(c)** Rs. 5
**(d)** Rs. 6

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**Q68.** Which cell organelle is associated with generation of ATP?

**(a)** Lysosomes
**(b)** Mitochondria
**(c)** Chloroplast
**(d)** Endoplasmic reticulum

**Q69.** Dr. Shankarbaba Pundlikrao Papalkar is known for his dedication to improving the lives of:

**(a)** those receiving education
**(b)** farmers
**(c)** disabled and destitute children
**(d)** senior citizens

**Q70.** Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and decide which conclusion(s) logically follow(s) from the given statements.

Statements:

All plants are rhinos.

All plants are animals.

Conclusion:

(I) All rhinos are plants.

(II) Some animals are rhinos.

**(a)** Neither conclusion (I) nor (II) follows.
**(b)** Both conclusions (I) and (II) follow.
**(c)** Only conclusion (II) follows.
**(d)** Only conclusion (I) follows.

**Q71.** Anil spends 40% of his income on rent and 40% of the remaining income on medicines. If he saves Rs. 7,200 every month, then his monthly income is:

**(a)** Rs. 22,000
**(b)** Rs. 20,000
**(c)** Rs. 36,000
**(d)** Rs. 25,000

**Q72.** Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster does not belong to that group?

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter cluster.)

**(a)** SVP
**(b)** OSL
**(c)** HLE
**(d)** FJC

**Q73.** Who was appointed as the Director General of Sashastra Seema Bal (SSB) in September 2024?

**(a)** Kuldiep Singh
**(b)** Amrit Mohan Prasad
**(c)** Subodh Kumar Jaiswal
**(d)** Rakesh Asthana

**Q74.** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

DFH, KMO, RTV, YAC, ?

**(a)** EGI
**(b)** FHJ
**(c)** FIL
**(d)** EGK

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**Q75.** Energy possessed by a body by virtue of its position or configuration is _____.

**(a)** potential energy
**(b)** nuclear energy
**(c)** electromagnetic energy
**(d)** kinetic energy

## ANSWER KEY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 a | 2 a | 3 a | 4 a | 5 a | 6 a | 7 a | 8 a | 9 a | 10 a |
| 11 a | 12 a | 13 a | 14 a | 15 a | 16 a | 17 a | 18 a | 19 a | 20 a |
| 21 a | 22 a | 23 a | 24 a | 25 a | 26 a | 27 a | 28 a | 29 a | 30 a |
| 31 a | 32 a | 33 a | 34 a | 35 a | 36 a | 37 a | 38 a | 39 a | 40 a |
| 41 a | 42 a | 43 a | 44 a | 45 a | 46 a | 47 a | 48 a | 49 a | 50 a |
| 51 a | 52 a | 53 a | 54 a | 55 a | 56 a | 57 a | 58 a | 59 a | 60 a |
| 61 a | 62 a | 63 a | 64 a | 65 a | 66 a | 67 a | 68 a | 69 a | 70 a |
| 71 a | 72 a | 73 a | 74 a | 75 a | | | | | |

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