

GATE

CRASH COURSE

ALL Branches

Subject

General Aptitude

Lec : 10 Arrangements & Ranking

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Topics *to be covered*

1 ARRANGEMENTS & RANKING

2 PROBLEM SOLVING





ARRANGEMENTS & RANKING



$$\boxed{L.P. + R.P. - 1}$$

→ No. of People in a row
3rd

Bigger
Smaller
8

$$3 + 6 - 1 = \underline{\underline{8}}$$

x x x x x x x
Median

3rd Left

6th ? Right

$$R.P. = No. of P - L.P. (+1)$$
$$\underline{\underline{R.P.}} = 8 - 3(+1) \rightarrow 6^{th}$$

Question



Madhu ranks seventeenth in a class of thirty-one. What is his rank from the last?

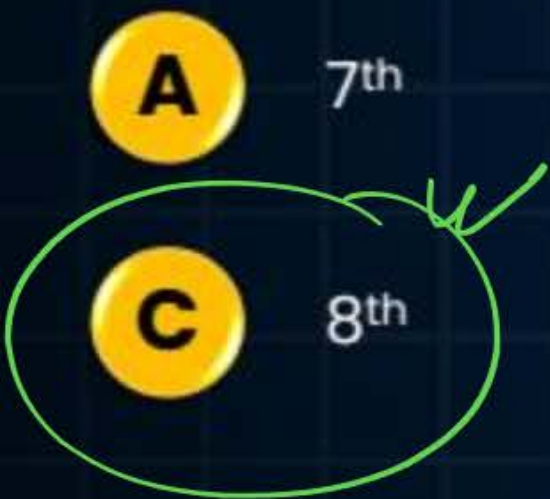
$$\begin{aligned}\text{Last rank} &= 31 - 17 + 1 \\ &= 32 - 17 = 15\end{aligned}$$

Question

$$\text{No. of } P = \underline{16}$$



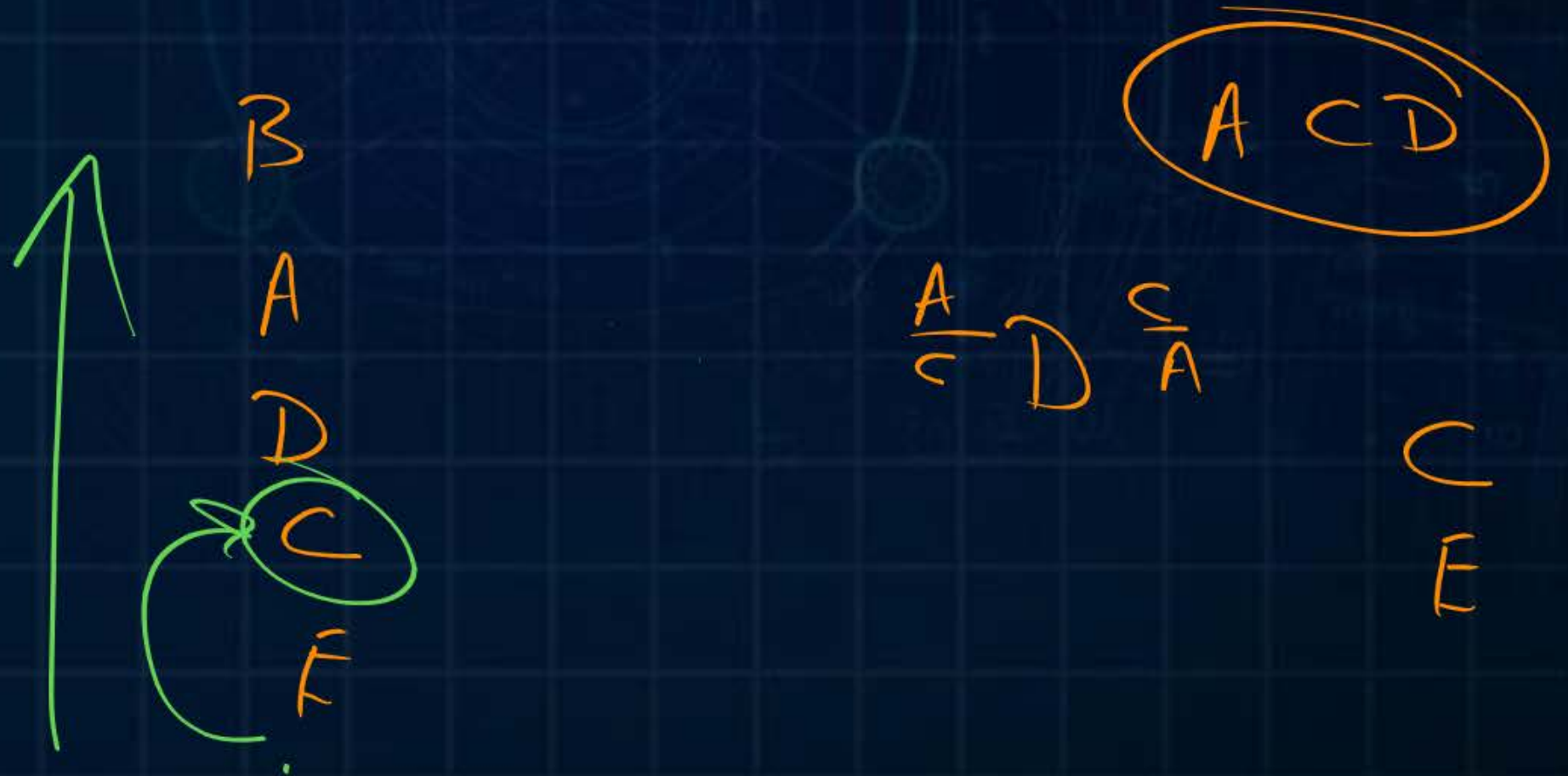
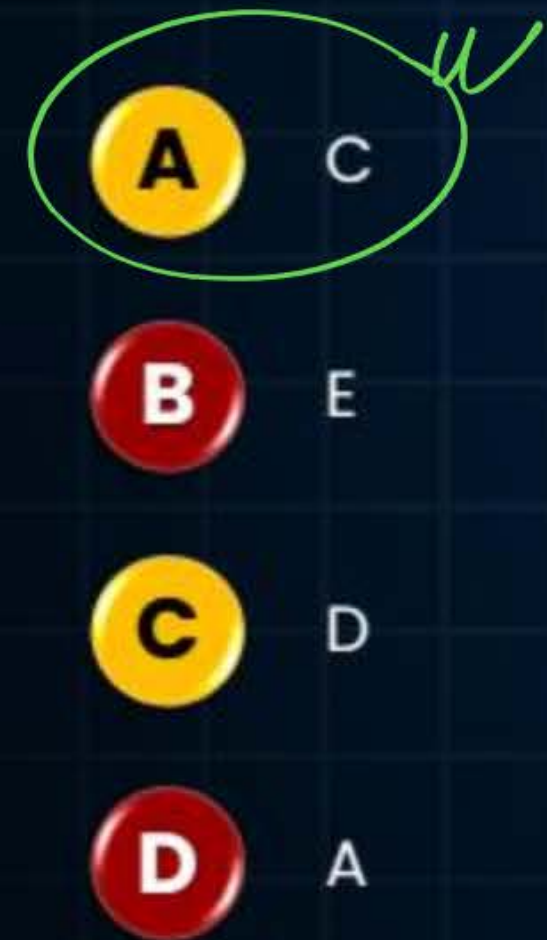
In a row of 16 boys, when Prakash was shifted by two places towards the left, he became 7th from the left end. What was his earlier position from right end?



$$\begin{aligned} R.P. &= 16 - 9 + 1 \\ &= 8^{\text{th}} \end{aligned}$$

Question

Five people are standing in a ticket booking line. A, C and D are standing together, D is between A and C. A is immediately behind B and E is immediately behind C. Who is standing second last in the line?



Question

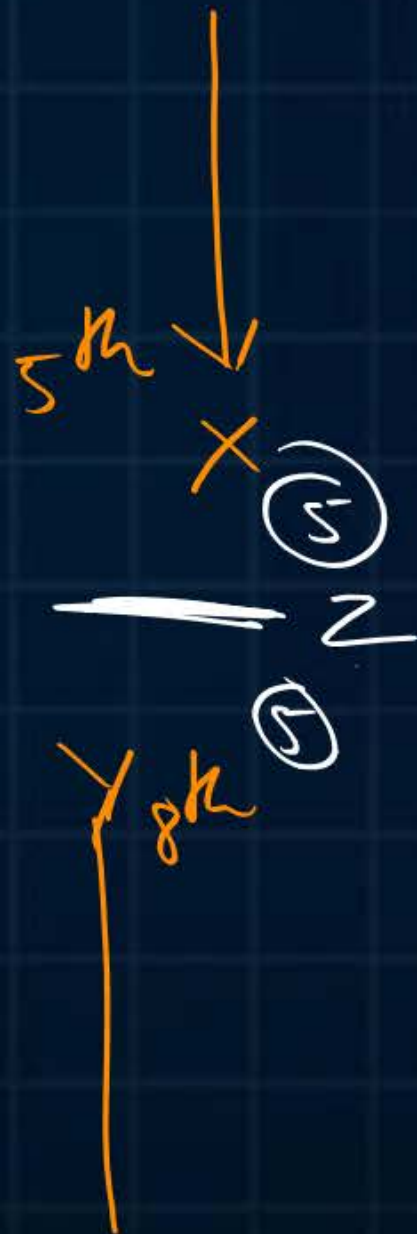
The result of a class was declared. The boy X stood 5th in the class. The girl Y was 8th from the last. The position of the boy Z was 6th after X and in the middle of X and Y. Work out total number of the students in the class?

A 23

C 25

B 29

D 24

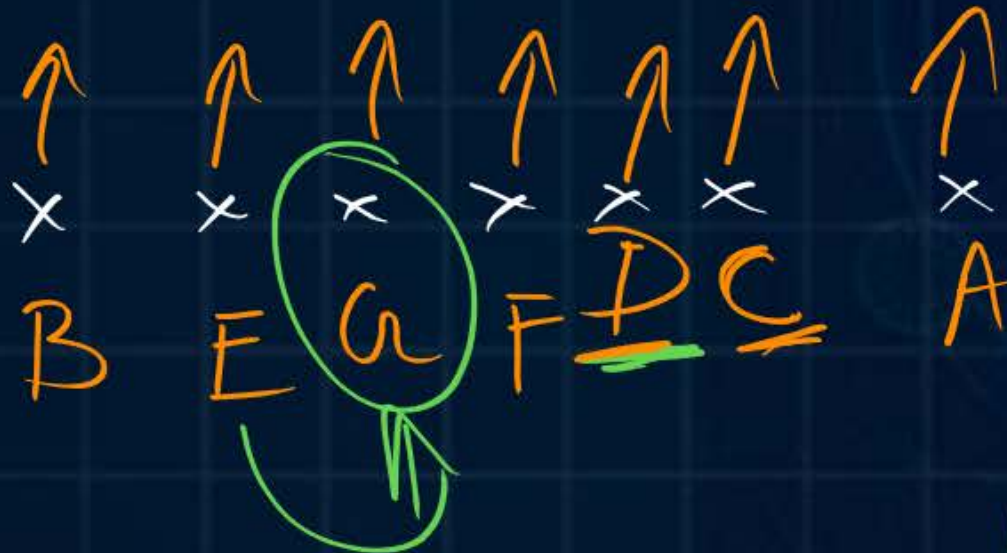


$$(5) + 5 + 1 + 5 + 8$$

$$= 16 + 8 = 24$$

Question

A, B, C, D, E, F and G are sitting on a wall and all of them are facing east. C is on the immediate right of D. B is at the extreme end and has E as his neighbour. G is between E and F. D is sitting third from the south end. Who is sitting to the right of E?



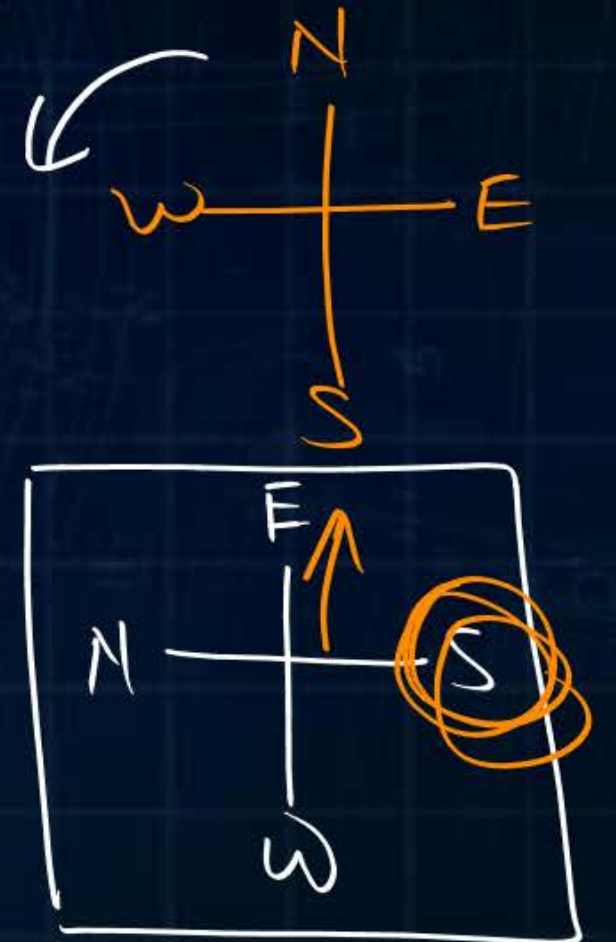
A A

C C

B D

D None of these

511



Question

$$G:B=2:1$$

In a class of 60, where number of girls are twice the number of boys, Mohit ranked 17th from the top. If there are 9 girls ahead of Mohit, then how many boys are after him in rank?

A 13

B 23

C 7

D 12

$$G = \frac{2}{2+1} \times 60 = 40 \quad | \quad B = 20$$

Boys = 7 9 Girls

↓ 17th
Mohit

$$20 - 8 = 12$$

$$16 - 9 = 7$$

8 Boys



PROBLEM SOLVING



Data Arrange

Question



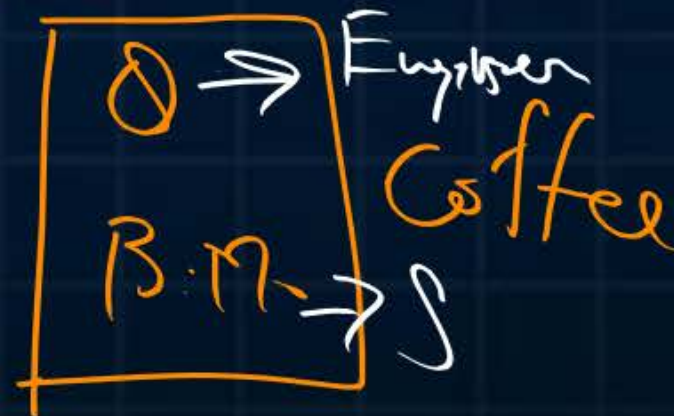
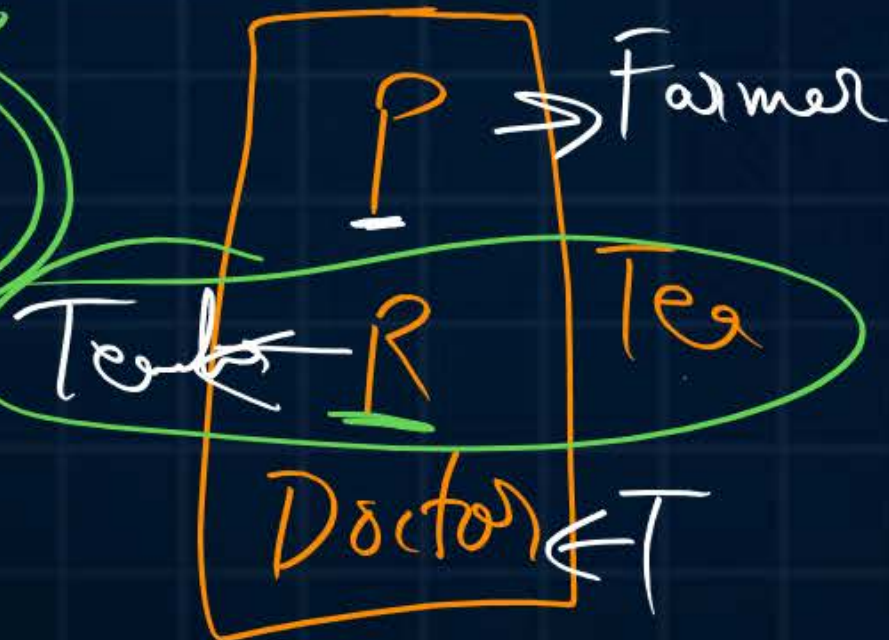
In a house, there are five people P, Q, R, S and T and their profession is Teacher, Farmer, Businessman, Engineer and Doctor, not necessarily in same order. Three of them P, R and Doctor like Tea and two of them Q and Businessman like Coffee. Among Engineer, S and R, two like Coffee. If P is a farmer, what would be the profession and like of R?

A Businessman; Coffee

C Teacher; Tea

B Doctor; Tea

D Engineer; Coffee

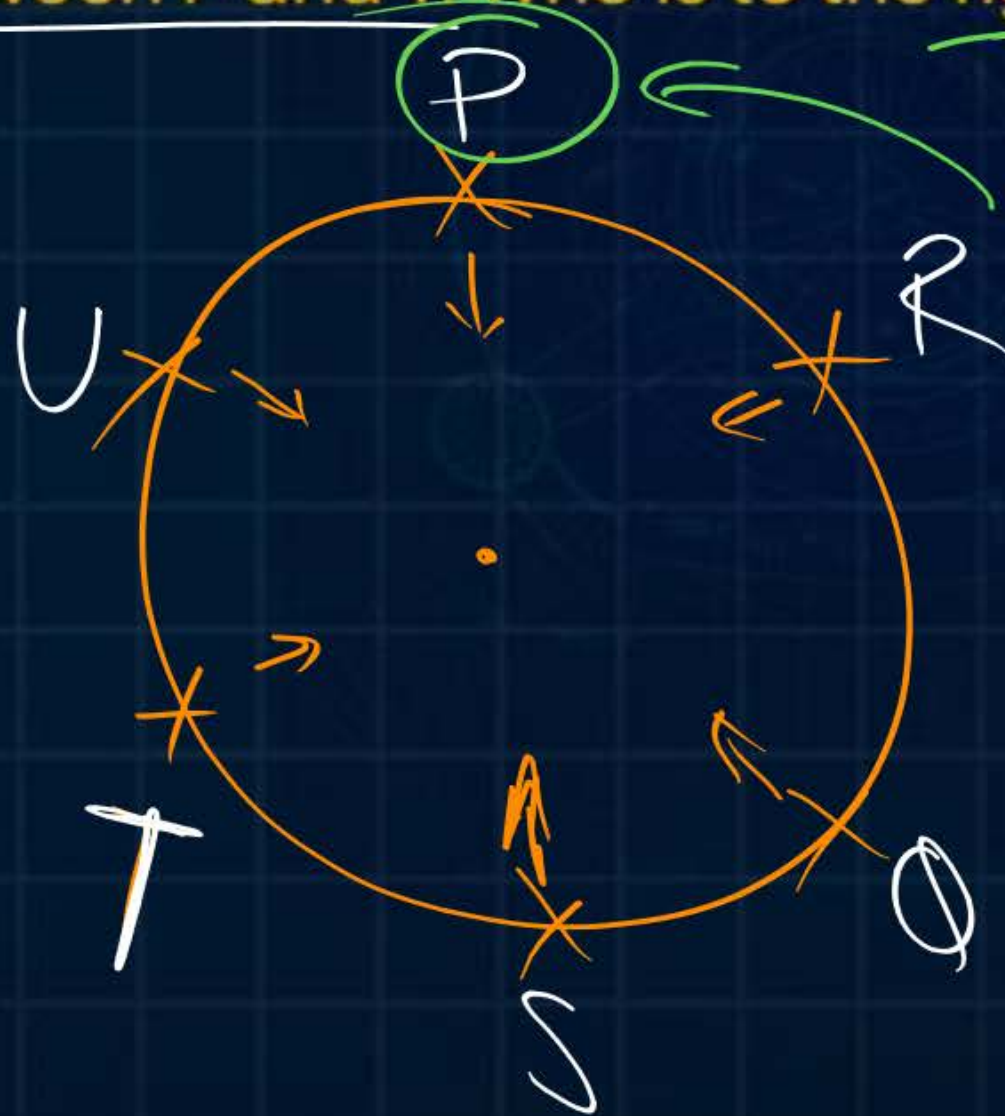


Question



Six friends P, Q, R, S, T and U are sitting in a closed circle facing center. R is between P and Q. T is to the left of S. U is between P and T. Who is to the right of R?

- A** P
- B** Q
- C** S
- D** T



P / Q R S / P

Question



A training college has to conduct a refresher course for teachers of seven different subject Mechanics, Psychology, Philosophy, Sociology, Economics, Science and Engineering from 25th January to 1st February, 2021. Course should start with Psychology. 31st January, being Sunday, should be holiday. Course should end with Mechanics subject. Economics subject is on Republic Day. Science is immediately before Sociology. Philosophy should be immediately after Republic day. There is a gap of one day between Economics and Engineering. Which subject precedes Mechanics?

- A** Economics
- B** Engineering
- C** Philosophy
- D** None of these

25th Jan Psychology

26 Economics

27 Philosophy

28 Engineering

29 Science

30 Socio

1st Mechanics

✓ Science
✓ Socio

Socio ~~31~~

Question



Prakash is taller than Geetha. Amar is taller than Prabhat but not as tall as Geetha. Prabodh is taller than Prakash. Who among them is the shortest?

Prabodh
Prakash

Geetha

Amar

Prabhat

Amar
Prabhat

A

Prabhat

B

Geeta

C

Amar

D

Prabodh

Question

A → Monday



Seven members of World Forest Conservation Committee – A, B, C, D, E, F and G planted seven saplings on seven days of the week which was celebrated as "Plantation Week".

A planted the sapling on Monday, the first day of the Plantation Week

B planted the sapling a day before when C planted the sapling and the very next day of E.

D planted the sapling on some day after that of B but that day was not the middle day of the week.

F planted the sapling on the last day of the plantation week and it was the third day after C planted the sapling. Who planted the sapling on the middle day of the plantation week?

A B

C D

Monday x A
x E
x B
x C
x → D/a
x → a/D
x F



E
B
C

Question (PYQ GATE Exam 2022 ME)



Four girls P, Q, R and S are studying languages in a university. P is learning French and Dutch. Q is learning Chinese and Japanese. R is learning Spanish and French. S is learning Dutch and Japanese.

Given that: French is easier than Dutch; Chinese is harder than Japanese; Dutch is easier than Japanese, and Spanish is easier than French.

Based on the above information, which girl is learning the most difficult pair of languages?

A P

B Q

C R

D S

P → French & Dutch

Q → Chinese & Japanese

R → Spanish & French

S → Dutch & Japanese

Chinese
Japanese
Dutch
French
Spanish

Question (PYQ GATE Exam 2021 EE)



QS

TV

SV

Seven cars P, Q, R, S, T, U and V are parked in a row not necessarily in that order. The cars T and U should be parked next to each other. The cars S and V also should be parked next to each other, whereas P and Q cannot be parked next to each other. Q and S must be parked next to each other. R is parked to the immediate right of V. T is parked to the left of U.

Based on the above statements, the only INCORRECT option given below is:

~~PS~~

P TU | QS V R P TU P

A

There are two cars parked in between Q and V.

B

Q and R are not parked together.

C

V is the only car parked in between S and R.

D

Car P is parked at the extreme end.

Question (PYQ GATE Exam 2020 CE)



Five friends P, Q, R, S and T went camping. At night, they had to sleep in a row inside the tent. P, Q and T refused to sleep next to R since he snored loudly. P and S wanted to avoid Q as he usually hugged people in sleep. Assuming everyone was satisfied with sleeping arrangements, what is the order in which they slept?

A RSPTQ ✓

C QRSPT ✗

R^x
P Q T

B SPRTQ ✗

D QTSPR ✗

Q^x
P S

Question (PYQ GATE Exam 2019 EC)



Mathew Rahul Seema Lohit
(Engineer) Teacher Dancer (Doctor)

Four people are standing in a line facing you. They are Rahul, Mathew, Seema and Lohit. One is an engineer, one is a doctor, one a teacher and another a dancer.

You are told that:

1. Mathew is not standing next to Seema.
2. There are two people standing between Lohit and the engineer.
3. Rahul is not a doctor.
4. The teacher and the dancer are standing next to each other.
5. Seema is turning to her right to speak to the doctor standing next to her.

Who among them is an engineer?

Teacher Dancer

Dancer Teacher

Seema Doctor
Dancer

~~Seema~~ → Eng

Lohit ↑ ↑ ↑ ↑ Engineer
= Teacher Dancer Lohit

Rahul

A Doctor
Seema

B Lohit
Lohit Seema Doctor Mathew

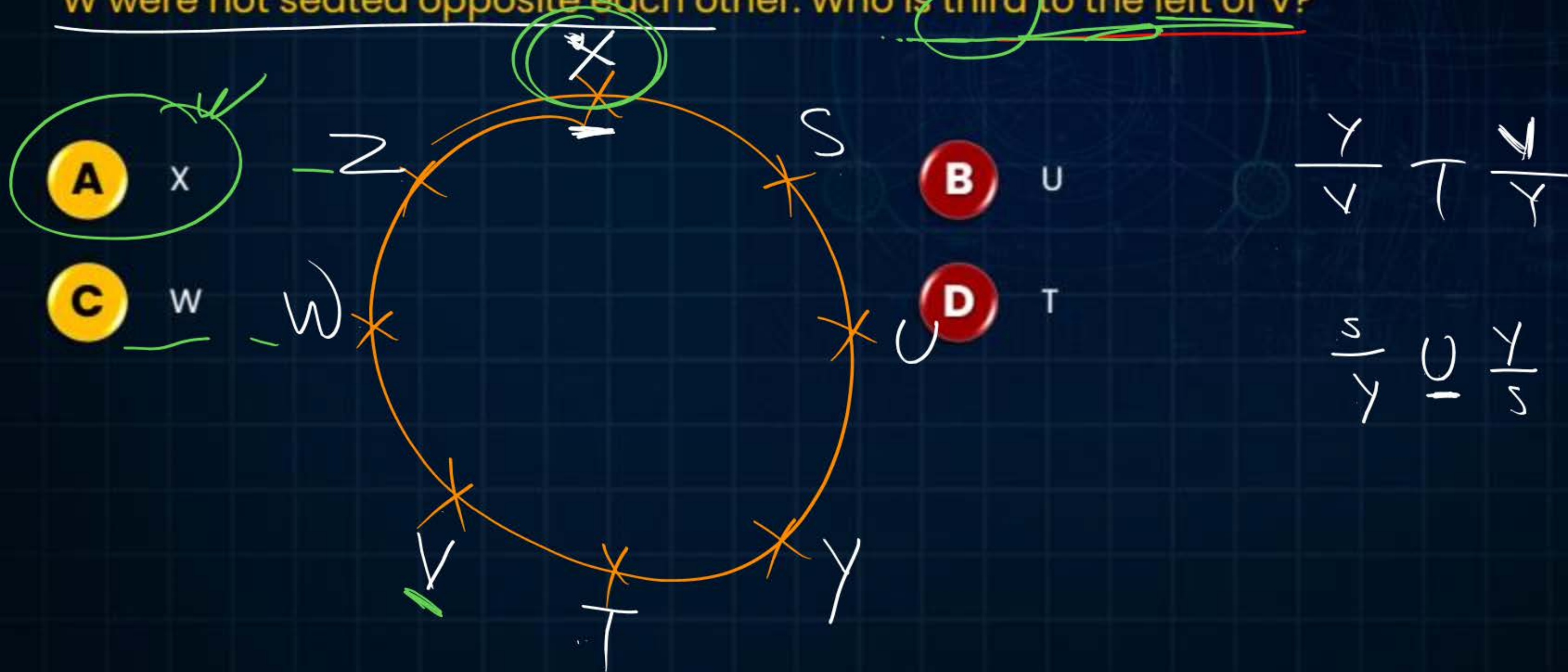
C Rahul

D Mathew

Question (PYQ GATE Exam 2017 EC)



S, T, U, V, W, X, Y and Z are seated around a circular table. T's neighbours are Y and V. Z is seated third to the left of T and second to the right of S. U's neighbours are S and Y. T and W were not seated opposite each other. Who is third to the left of V?

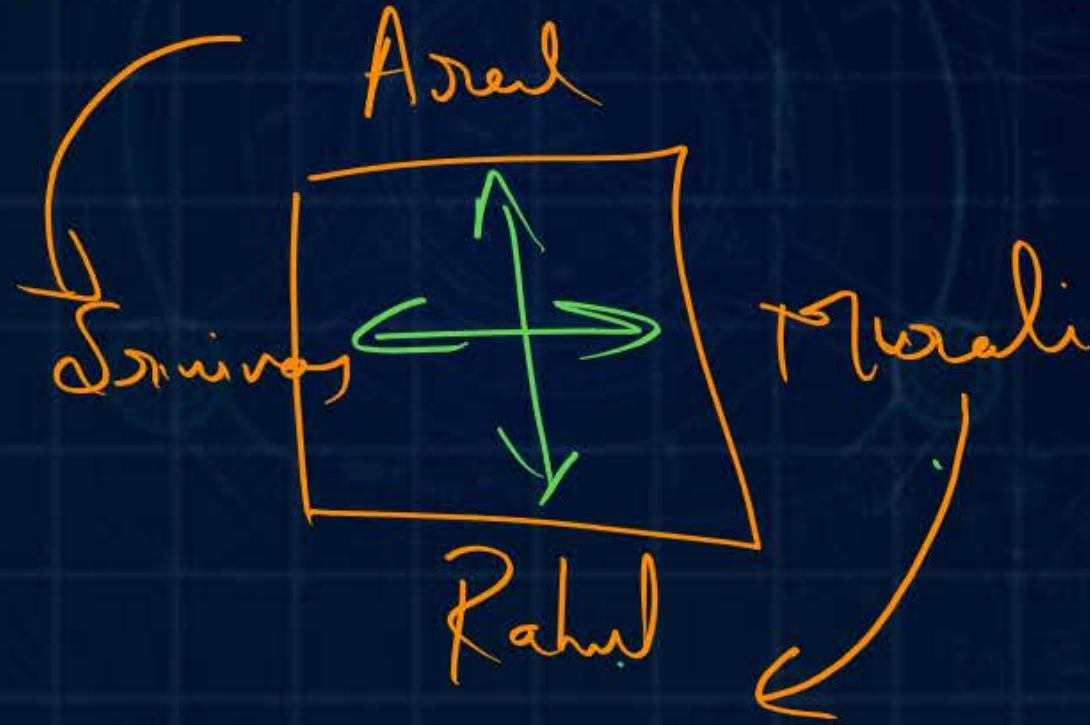


Question (PYQ GATE Exam 2017 CS/EE)



Rahul, Murali, Srinivas and Arul are seated around a square table. Rahul is sitting to the left of Murali. Srinivas is sitting to the right of Arul. Which of the following pairs are seated opposite to each other?

- A** Rahul and Murali ✗
- B** Srinivas and Arul ↑
- C** Srinivas and Murali ✓
- D** Srinivas and Rahul



Question (PYQ GATE Exam 2015 ME)

Tanya is older than Eric.
Cliff is older than Tanya.

Eric is older than Cliff

If the first two statements are true, then the third statement is:

- A** True
- B** False
- C** Uncertain
- D** Data insufficient

Cliff
Tanya
Eric

Question (PYQ GATE Exam 2015 CS/CE)



USX

The head of a newly formed government desires to appoint five of the six selected members P, Q, R, S, T and U to portfolios of Home, Power, Defence, Telecom and Finance. U does not want any portfolio if S gets one of the five. R wants either Home or Finance or ~~no portfolio~~. Q says that if S gets either Power or Telecom, then she must get the other one. T insist on a portfolio if P gets one.

Which is valid distribution of portfolios?

R → Home / Finance

A P-Home Q-Power R-~~Defence~~ S-Telecom T-Finance

B R-Home S-Power P-Defence Q-Telecom T-Finance

C P-Home Q-Power T-Defence S-Telecom U-Finance

D Q-Home U-Power T-Defence R-~~Telecom~~ P-Finance

Question (PYQ GATE Exam 2014 CE)



In a group of four children, Som is younger to Riaz. Shiv is elder to Ansu. Ansu is youngest in the group. Which of the following statements is/are required to find the eldest child in the group?

Statements:

1. Shiv is younger to Riaz

2. Shiv is elder to Som

Riaz

Som

Shiv
Ansu

Riaz
Som
Shiv

A

Statement 1 by itself determines the eldest child.

C

Statement 1 and 2 are both required to determine the eldest child.

B

Statement 2 by itself determines the eldest child.

D

Statement 1 and 2 are not sufficient to determine the eldest child.

Ansh

Question (PYQ GATE Exam 2013 CE)

Abhishek is elder to Sarvar.

Sarvar is younger to Anshul.

Which of the given conclusion is valid and is inferred from the above statements?

- A** Abhishek is elder to Anshul ✗
- B** Anshul is elder to Abhishek ✗
- C** Abhishek and Anshul are of same age ✗
- D** No conclusion follows ✓

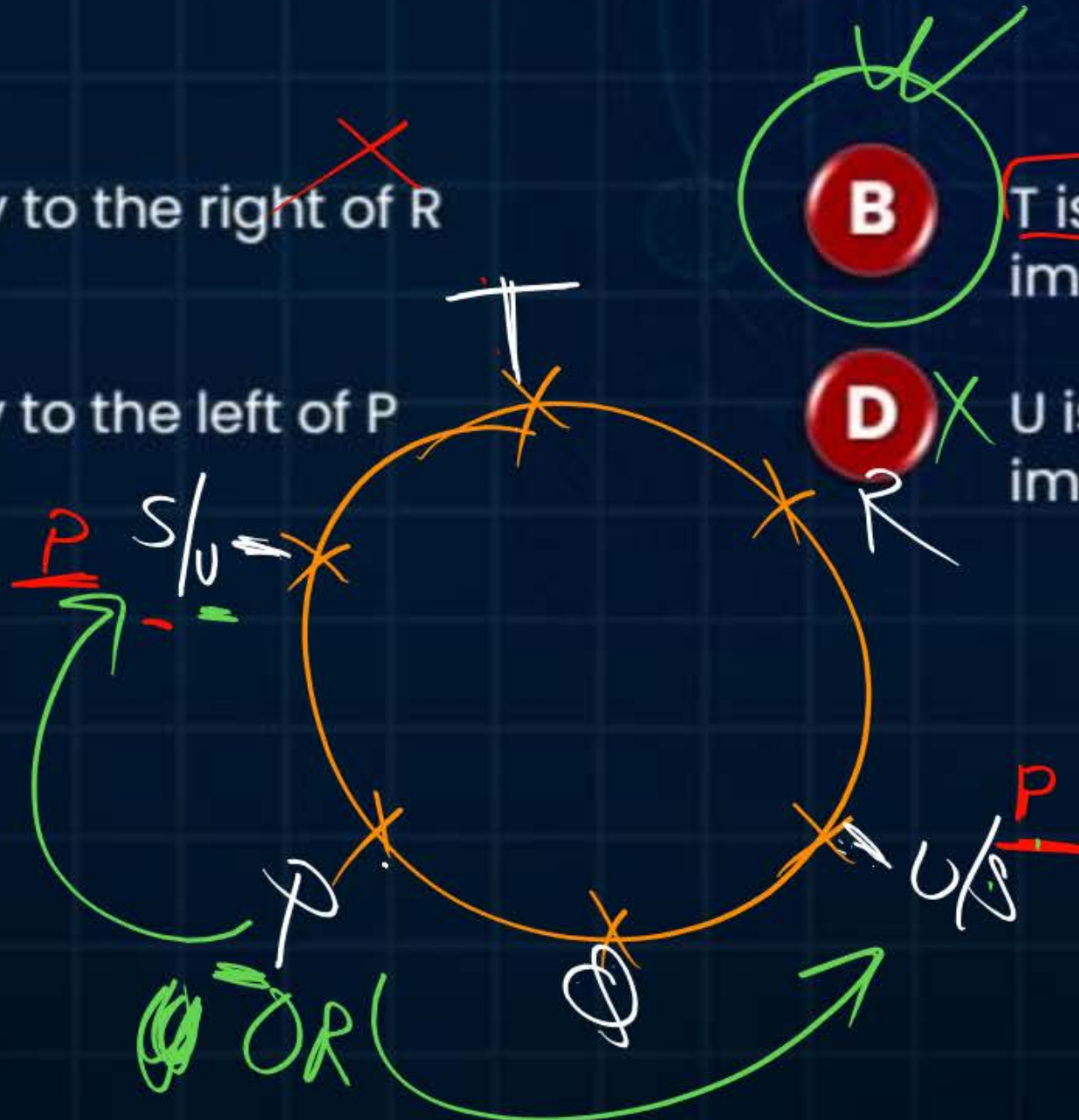
✓ Anshul
Abhishek
Anshul
Sarvar

Question (PYQ GATE Exam 2017 CE)



P, Q, R, S, T and U are seated around a circular table. R is seated two places to the right of Q. P is seated three places to the left of R. S is to the opposite of U. If P and U now switch seats, which of the following must necessarily be true?

- A** P is immediately to the right of R
- B** T is immediately to the left of P or P is immediately to the right of Q
- C** T is immediately to the left of P
- D** U is immediately to the right of R or P is immediately to the left of T



Question (PYQ GATE Exam 2019 EE)

Consider five people—Mita, Ganga, Rekha, Lakshmi and Sana. Ganga is taller than both Rekha and Lakshmi. Lakshmi is taller than Sana. Mita is taller than Ganga.

Which of the following conclusions are true?

1. Lakshmi is taller than Rekha. ~~X~~

3. Rekha is taller than Sana. ~~X~~

2. Rekha is shorter than Mita ✓✓

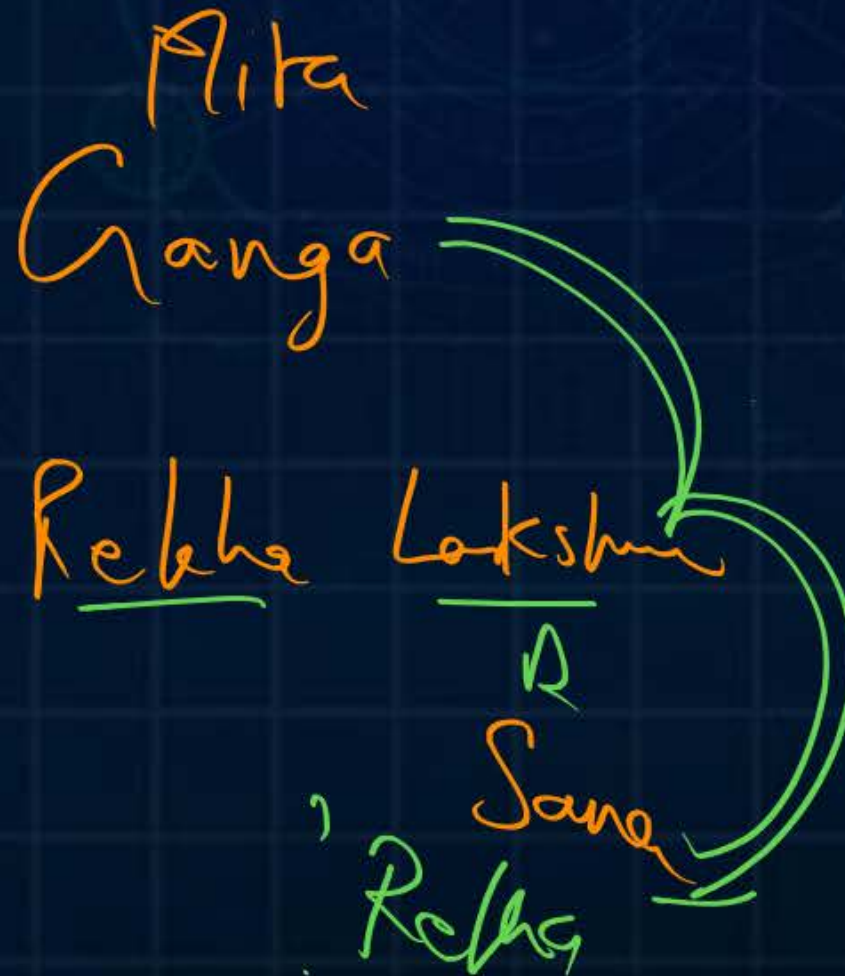
4. Sana is shorter than Ganga ✓

A 1 and 3

B 3 only

C 2 and 4 ✓

D 1 only





Summary

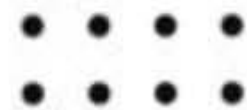


Arrangement & Ranking

Problem Solving

The word 'Thank' is written in a large, yellow, cursive script. A yellow arrow starts from the top of the 'T', extends horizontally to the right, and then curves downwards to point at the end of the word.

THANK



Keep Hustling!