

## Lesson 02 Demo 02

### Testing Different LLM Models

**Objective:** To compare the performance of leading large language models—GPT-4, DeepSeek, Claude, Cohere, Copilot, and LLaMA—based on accuracy, response quality, and adaptability

**Tools required:** GPT-4, DeepSeek, Claude, Cohere, Copilot, and LLaMA

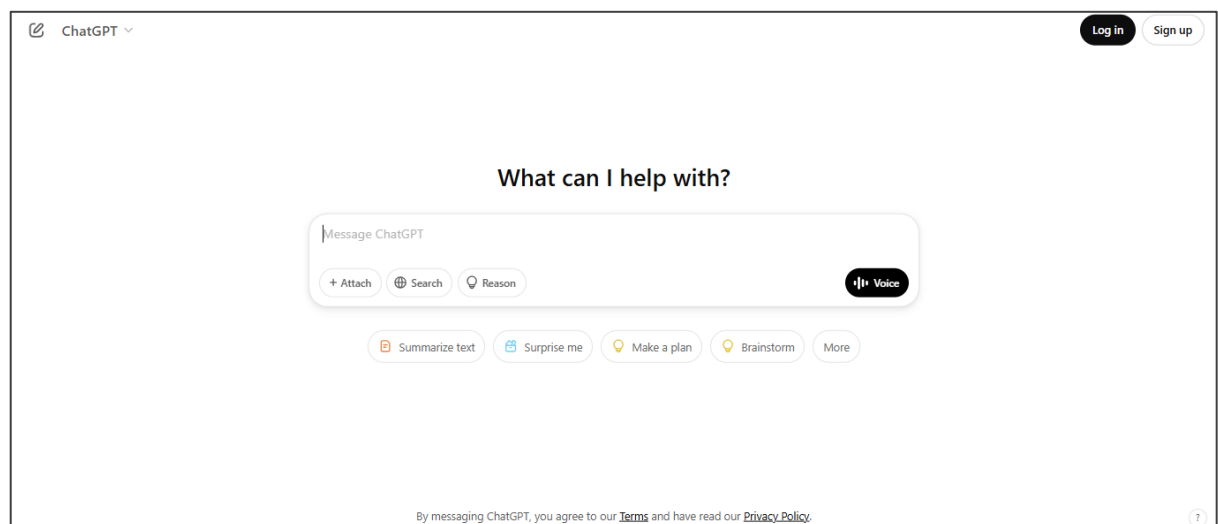
**Prerequisites:** None

#### Steps to be followed:

1. Testing GPT 4
2. Testing DeepSeek
3. Testing Claude
4. Testing Cohere
5. Testing Copilot
6. Testing LLaMA

#### Step 1: Testing GPT 4

- 1.1 Open ChatGPT with the link given: <https://chatgpt.com/>



1.2 Write the prompt below to calculate how many students are only on the robotics team:

*A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only on the robotics team? Think step by step before giving the final answer.*

A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only in the robotics team? Think step by step before giving the final answer.

Output is as shown below:

Let's break down the problem step by step:

**Step 1: Calculate the number of students in the science club**

We are told that one-third of the total students are in the science club.

$$\text{Number of students in the science club} = \frac{1}{3} \times 240 = 80$$

**Step 2: Calculate the number of students in the robotics team who are in the science club**

Half of those in the science club also participate in the robotics team.

$$\text{Students in both science club and robotics team} = \frac{1}{2} \times 80 = 40$$

**Step 3: Calculate the number of students in the drama club**

We are told that one-fourth of the total students are in the drama club.

$$\text{Number of students in the drama club} = \frac{1}{4} \times 240 = 60$$

**Step 4: Calculate the number of students in the robotics team who are in the drama club**

20% of the students in the drama club also participate in the robotics team.

$$\text{Students in both drama club and robotics team} = 0.20 \times 60 = 12$$

**Step 5: Calculate the total number of students in the robotics team**

We know that the students in the robotics team include those who are also in the science club and those who are also in the drama club. So, we need to add the students from the two previous calculations:

$$\text{Total students in robotics team} = 40 \text{ (from science club)} + 12 \text{ (from drama club)} = 52$$

**Step 6: Calculate the number of students who are only in the robotics team**

To find the students who are only in the robotics team, we need to subtract those who are in both the science club and robotics team and those who are in both the drama club and robotics team from the total number of students in the robotics team.

$$\text{Students only in robotics team} = 52 \text{ (total in robotics)} - 40 \text{ (science club and robotics)} - 12 \text{ (drama club and robotics)}$$

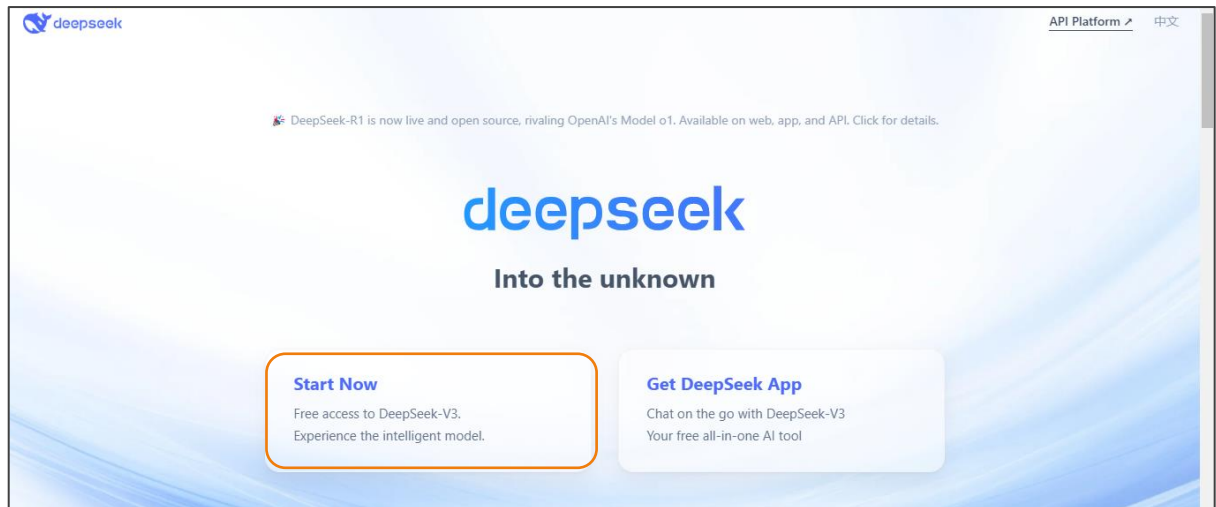
$$\text{Students only in robotics team} = 52 - 40 - 12 = 0$$

**Final Answer:**

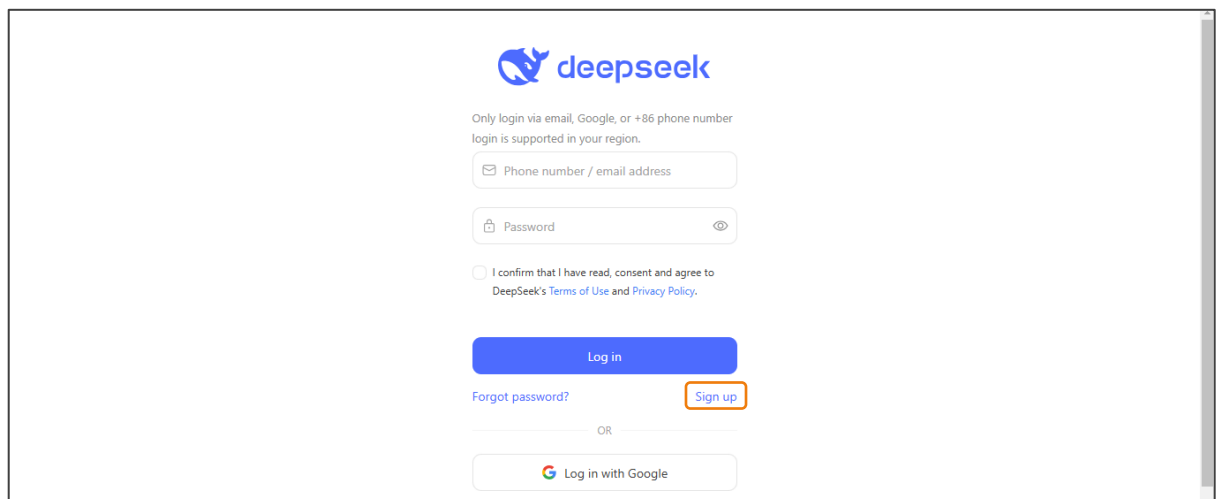
There are 0 students who are only in the robotics team. All students in the robotics team are also in either the science or drama club.

## Step 2: Testing DeepSeek

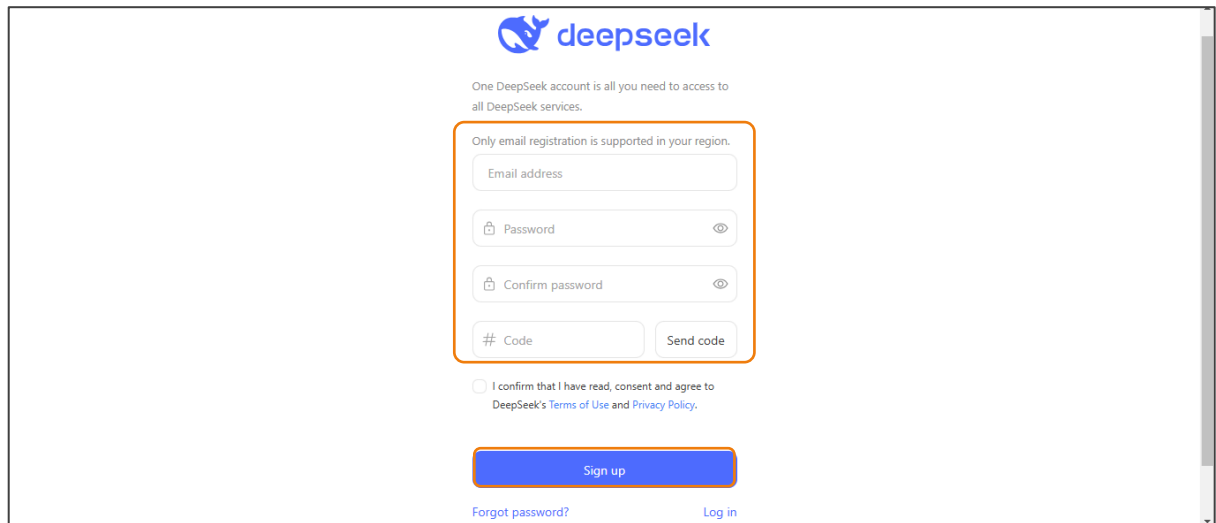
2.1 Open DeepSeek with the link given: <https://www.deepseek.com/>



2.2 Click on **Sign up**



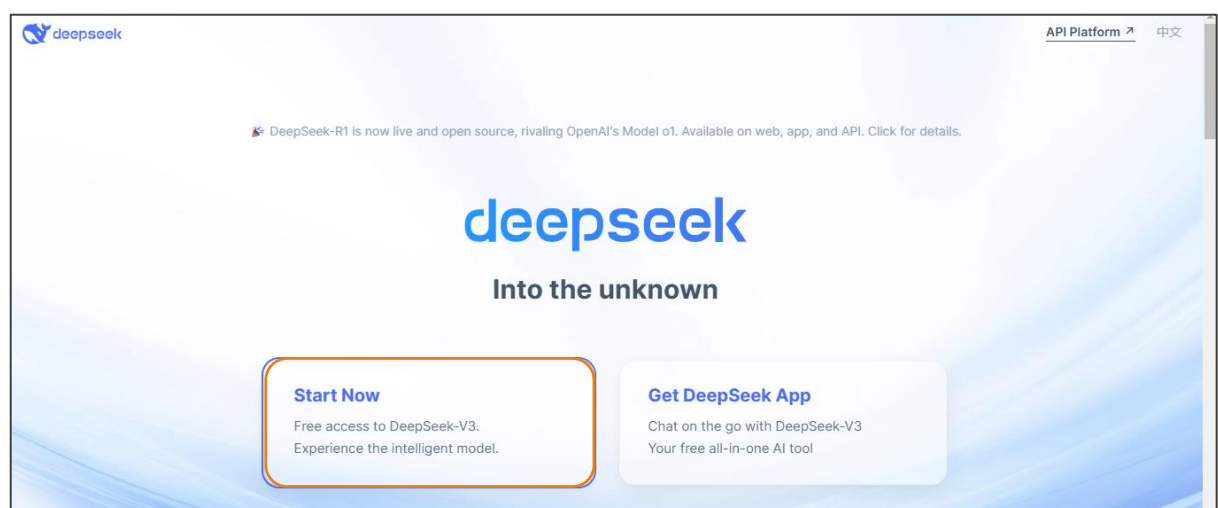
### 2.3 Enter your details and click on **Sign up**



The image shows the DeepSeek sign-up page. At the top is the DeepSeek logo. Below it, a message states: "One DeepSeek account is all you need to access to all DeepSeek services." A registration form is centered, enclosed in an orange border. It includes fields for "Email address", "Password", and "Confirm password", each with a lock icon. Below these is a "# Code" field and a "Send code" button. A checkbox below the form reads: "I confirm that I have read, consent and agree to DeepSeek's Terms of Use and Privacy Policy." At the bottom of the form is a blue "Sign up" button. Below the button are links for "Forgot password?" and "Log in".

**Note:** Fill in your details, click on **Send code**, and then click on **Sign up**

### 2.4 Click on **Start Now**



### 2.5 Write the prompt below to calculate how many students are only on the robotics team:

*A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only on the robotics team? Think step by step before giving the final answer.*

### New chat

A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only in the robotics team? Think step by step before giving the final answer.

Output is as shown below:



Let's break down the problem step by step to find out how many students are **only** in the robotics team.

Step 1: Determine the number of students in the Science Club

- **Total students:** 240
- **One-third are in the Science Club:**

$$\frac{1}{3} \times 240 = 80 \text{ students}$$

Step 2: Find out how many Science Club students are also in the Robotics Team

- **Half of the Science Club students participate in the Robotics Team:**

$$\frac{1}{2} \times 80 = 40 \text{ students}$$

Step 3: Determine the number of students in the Drama Club

- **One-fourth of the total students are in the Drama Club:**

$$\frac{1}{4} \times 240 = 60 \text{ students}$$

Step 4: Find out how many Drama Club students are also in the Robotics Team

- **20% of the Drama Club students participate in the Robotics Team:**

$$0.20 \times 60 = 12 \text{ students}$$

Step 5: Calculate the total number of students in the Robotics Team

- **Students from the Science Club in Robotics Team:** 40
- **Students from the Drama Club in Robotics Team:** 12
- **Total in Robotics Team:**

$$40 + 12 = 52 \text{ students}$$

Step 6: Determine the number of students **only** in the Robotics Team

- **Assumption:** The problem implies that the Robotics Team consists **only** of students from the Science Club and Drama Club. Therefore, there are no students who are **only** in the Robotics Team without being in either the Science Club or Drama Club.

$$\text{Students only in Robotics Team} = 0$$

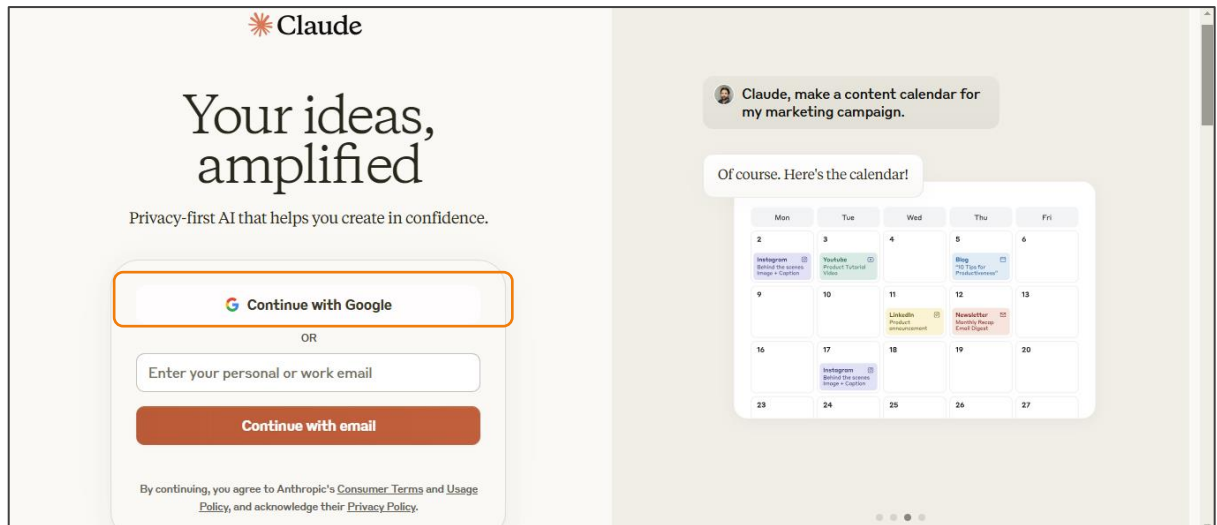
However, if the question intends to find the number of students in the Robotics Team **excluding** those who are in both Science and Drama Clubs (though the problem doesn't mention any overlap between Science and Drama Clubs), the calculation remains the same as above.

But based on the given information and typical interpretation:

0

## Step 3: Testing Claude

3.1 Open Claude with the link given: <https://claude.ai>



**Note:** Follow the on-screen instructions and create your free account

### 3.2 Write the prompt below to calculate how many students are only on the robotics team:

*A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only on the robotics team? Think step by step before giving the final answer.*

**N** A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only in the robotics team? Think step by step before giving the final answer.

Output is as shown below:

Let me solve this step by step.

1. First, let's find how many students are in the science club:
  - One-third of  $240 = 240 \div 3 = 80$  students in science club
2. From those in science club, half are in robotics team:
  - Half of  $80 = 80 \div 2 = 40$  students from science club are in robotics
3. Let's find how many students are in drama club:
  - One-fourth of  $240 = 240 \div 4 = 60$  students in drama club
4. From drama club, 20% are in robotics team:
  - 20% of  $60 = 60 \times 0.20 = 12$  students from drama club are in robotics

5. Now we have:
  - 40 robotics students from science club
  - 12 robotics students from drama club
  - We need to find students who are ONLY in robotics team
  - Total robotics students =  $40 + 12 = 52$  students

Therefore, all 52 students in the robotics team come from either science or drama club, meaning there are 0 students who are only in the robotics team.

The answer is 0 students.

    Retry

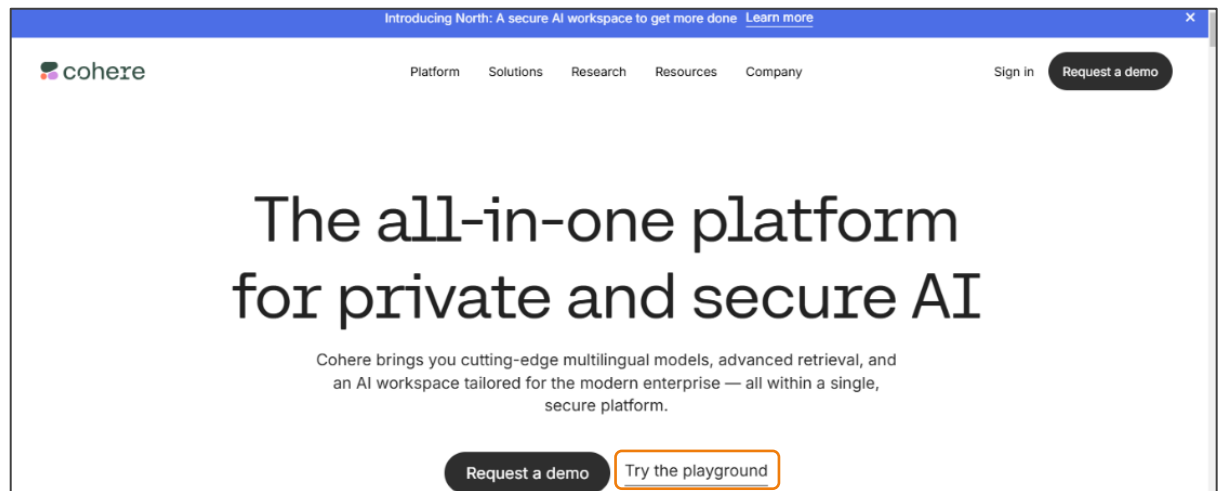


Claude can make mistakes. Please double-check responses.

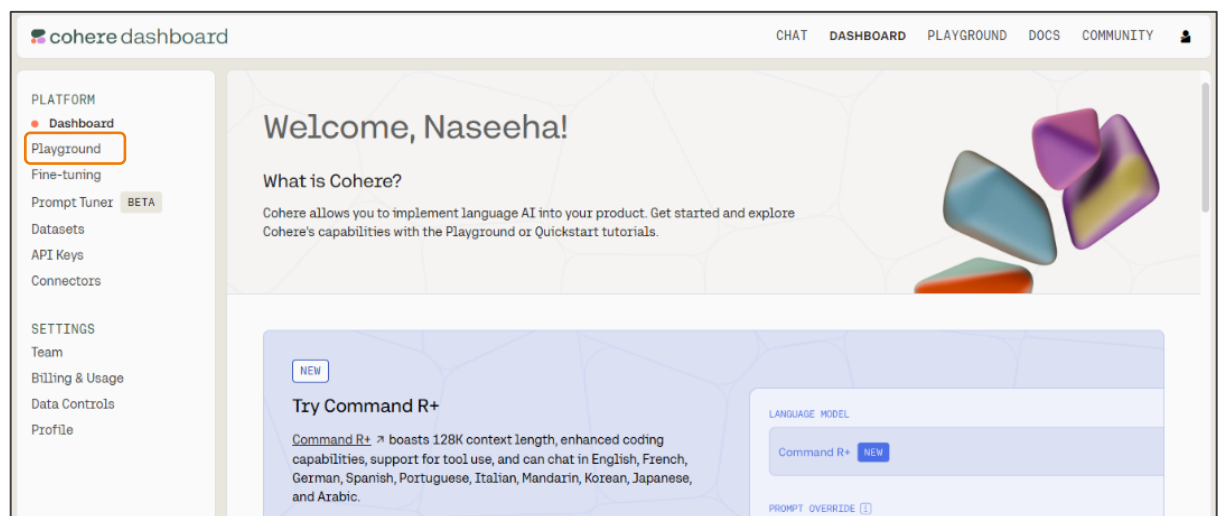
## Step 4: Testing Cohere

4.1 Open Cohere with the link given: <https://cohere.com/>

Click on **Try the playground**, follow the on-screen instructions, and create your Cohere account



4.2 Click on the **Playground** option





#### 4.3 Write the prompt below to calculate how many students are only on the robotics team:

*A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only on the robotics team? Think step by step before giving the final answer.*

N

A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only in the robotics team? Think step by step before giving the final answer.

Output is as shown below:



Let's break down the information and solve this step by step:

1. **Total Students:** 240

2. **Students in the Science Club:**

- One-third of the students are in the science club:

$$\frac{1}{3} \times 240 = 80$$

$$31 \times 240 = 80$$

3. **Students in the Science Club and Robotics Team:**

- Half of those in the science club are also in the robotics team:

$$\frac{1}{2} \times 80 = 40$$

$$21 \times 80 = 40$$

4. **Students in the Drama Club:**

- One-fourth of the total students are in the drama club:

$$\frac{1}{4} \times 240 = 60$$

$$41 \times 240 = 60$$

5. **Students in the Drama Club and Robotics Team:**

- 20% of those in the drama club are also in the robotics team:

$$0.20 \times 60 = 12$$

$$0.20 \times 60 = 12$$

6. **Students Only in the Robotics Team:**

- We need to find the students who are only in the robotics team. This includes those from the science club and the drama club who are in the robotics team, minus any overlap.
- Total in robotics team from science club: 40
- Total in robotics team from drama club: 12
- Total in robotics team:  $40 + 12 = 52$

However, we need to account for any potential overlap. Since the problem doesn't specify an overlap, we'll assume the 40 from the science club and 12 from the drama club are distinct groups.

Therefore, the number of students only in the robotics team is:

$$40 + 12 = 52$$

$$40 + 12 = 52$$

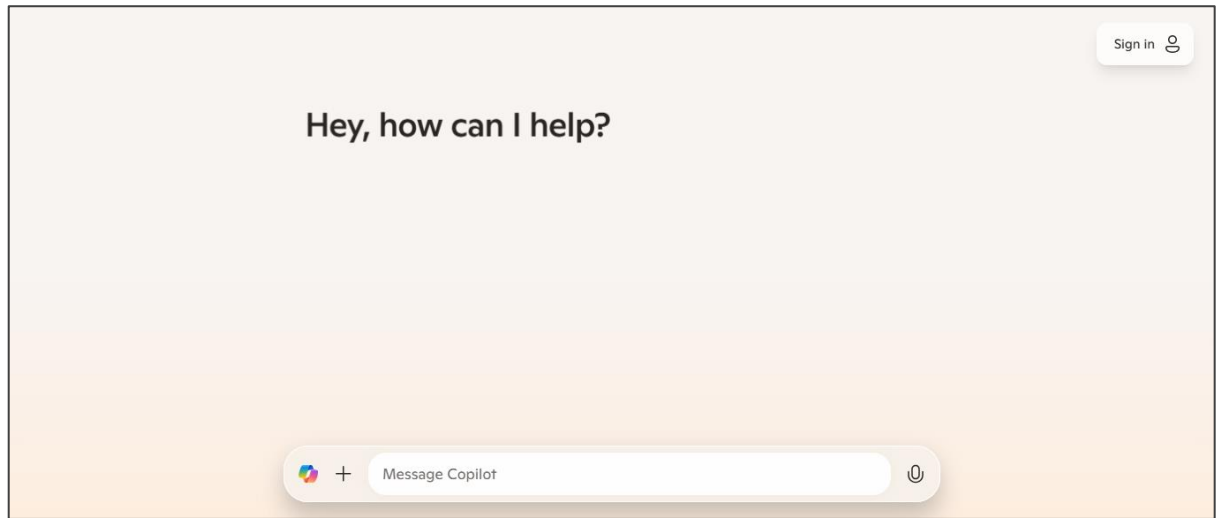
Final Answer: 52



## Step 5: Testing Copilot

5.1 Open Copilot with the link given:

<https://copilot.microsoft.com/chats/PBoVYL2MR4sWjTgXWsSBw>



5.2 Write the prompt below to calculate how many students are only on the robotics team:

*A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only on the robotics team? Think step by step before giving the final answer.*

A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only in the robotics team? Think step by step before giving the final answer.

Output is as shown below:

Let's break this down step by step:

1. Total number of students in the school: 240 students

2. Students in the science club:

• One-third of 240 students:  $\frac{240}{3} = 80$  students

3. Students in both the science club and the robotics team:

• Half of the students in the science club:  $\frac{80}{2} = 40$  students

4. Students in the drama club:

• One-fourth of 240 students:  $\frac{240}{4} = 60$  students

5. Students in both the drama club and the robotics team:

• 20% of the students in the drama club:  $0.20 \times 60 = 12$  students

6. Total students in the robotics team:

• Students from both the science club and drama club that are in the robotics team:  $40 + 12 = 52$  students

Sign in

7. Students only in the robotics team:

• We know the total number of students in the robotics team and the ones who are also in either the science or drama club.

• Students only in the robotics team:  $52 - (40 + 12) = 52 - 52 = 0$  students

So, there are no students only in the robotics team. They are either in the science club or the drama club as well.

How can I tackle similar multi-step problems?

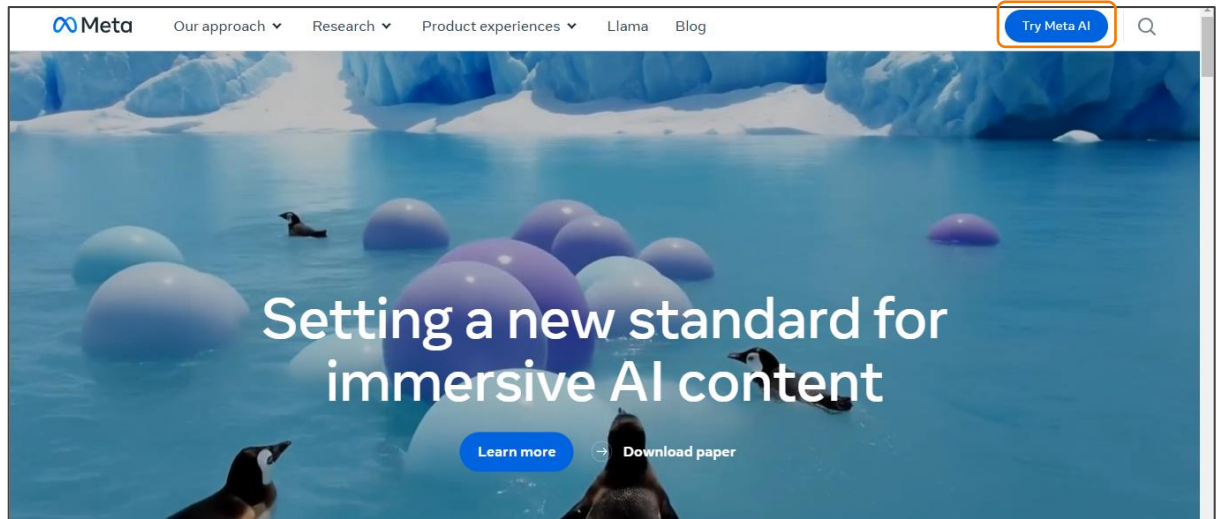
What if there are more students in the drama club?

Explain how to calculate overlaps in clubs

Sign in

## Step 6: Testing LLaMA

6.1 Open LLaMA with the link given: <https://ai.meta.com/> and click on **Try Meta AI**







6.2 Write the prompt below to calculate how many students are only on the robotics team:

*A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only on the robotics team? Think step by step before giving the final answer.*

A school has 240 students. One-third of the students are in the science club, and half of those in the science club also participate in the robotics team. Additionally, one-fourth of the total students are in the drama club, and 20% of those in the drama club also participate in the robotics team. How many students are only on the robotics team? Think step by step before giving the final answer.

Output is as shown below:



Let's break down the problem step by step:

**Step 1: Calculate the number of students in the science club**

One-third of the students are in the science club. So, the number of students in the science club =  $240 / 3 = 80$ .

**Step 2: Calculate the number of students in both the science club and the robotics team**

Half of the students in the science club also participate in the robotics team. So, the number of students in both the science club and the robotics team =  $80 / 2 = 40$ .

**Step 3: Calculate the number of students in the drama club**

One-fourth of the total students are in the drama club. So, the number of students in the drama club =  $240 / 4 = 60$ .

**Step 4: Calculate the number of students in both the drama club and the robotics team**

20% of those in the drama club also participate in the robotics team. So, the number of students in both the drama club and the robotics team =  $60 * 0.2 = 12$ .





**Step 5: Calculate the total number of students in the robotics team**

The total number of students in the robotics team is the sum of students in both the science club and the robotics team, and students in both the drama club and the robotics team. Total students in the robotics team =  $40 + 12 = 52$ .

**Step 6: Calculate the number of students only in the robotics team**

Since there are 52 students in the robotics team, and all of them are also part of either the science club or the drama club, we need to subtract the students who are part of other clubs to find the number of students only in the robotics team. However, given the information provided, it's clear that the 52 students calculated are the ones participating in both the robotics team and another club. Therefore, we cannot determine the exact number of students only in the robotics team without additional information. For the purpose of this exercise, let's assume the question intends to ask for the total number of students in the robotics team, which we've calculated as 52.

The final answer is:



Log in to save your conversation history, sync with Messenger, generate images and more.

When you ask AI to imagine something, options will generate as you type.

## Conclusion:

By following the above steps, you have successfully compared the performance of leading large language models like GPT-4, DeepSeek, Claude, Cohere, Copilot, and LLaMA based on accuracy, response quality, and adaptability.