

# SOFTWARE ENGINEERING PROJECT

JAN 2025 TERM - TEAM 1

MILESTONE - 2

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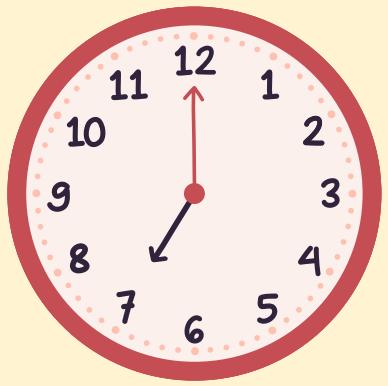
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Siddharth Umathe (22f2001536)

# STORYBOARD

**Meet Anjali – a student juggling endless lectures, assignments, and deadlines. With time slipping away and a mountain of content to review, she's searching for a smarter way to study.**



This lecture was so long.  
I can't afford to spend  
another hour  
rewatching this. There  
has to be a better way  
to review!

## Machine Learning Practices

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#### 1.2: Scikit-Learn

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## 1.2: Scikit-Learn



# Introduction to Scikit-Learn (sklearn)



Summarize Lecture

#### Lecture Summary

Scikit-learn is a Python library for machine learning, built on NumPy, SciPy, and Matplotlib. It supports tasks like classification, regression, clustering, and preprocessing through a simple API. Key steps include:

**1. Install:** pip install scikit-learn.

Copy Text

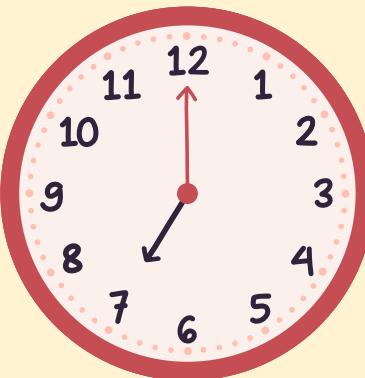
Ask Kia



This saved me so much time! I understand the main points now, and I'm ready for the assignment.

**Anjali is drowning in lecture videos the night  
before the assignment deadline. The clock ticks  
louder than her racing thoughts... until a  
smarter way to revise emerges.**

To be Revised  
Week 1  
Week 2  
Week 3  
Week 4



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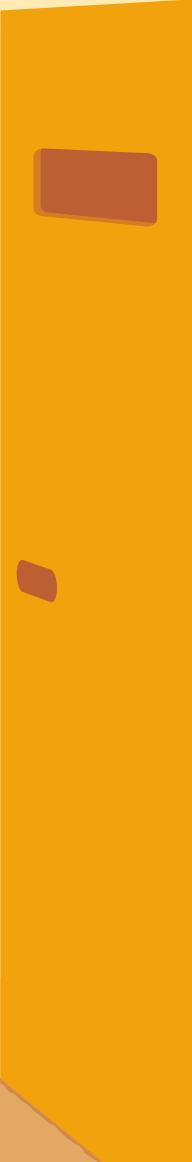
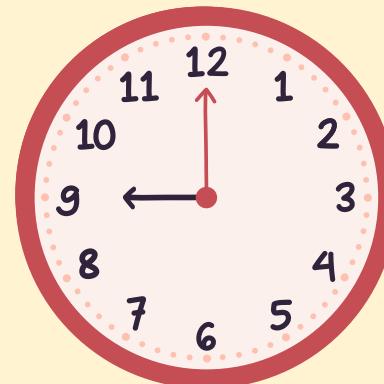
# Week 1 Summary

Week 1 Summary goes here ...

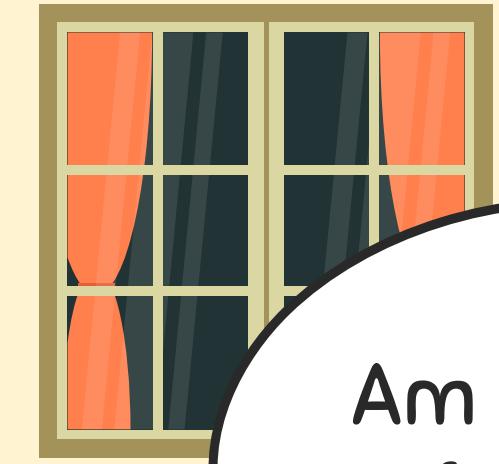
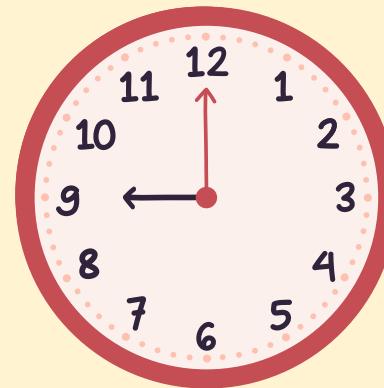
- Bullet point 1
- Bullet point 2

Download as PDF 

Ask Kia 



To be Revised  
Week 1 ✓  
Week 2 ✓  
Week 3 ✓  
Week 4 ✓



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## Mock Quiz 1

1. What is the full form of ML?

1 point

Machine Language

Machine Learning

Macro Learning

2. Which of the following is a type of supervised learning?

1 point

Clustering

Regression

Dimensionality Reduction

Association Rule Mining

Check Score

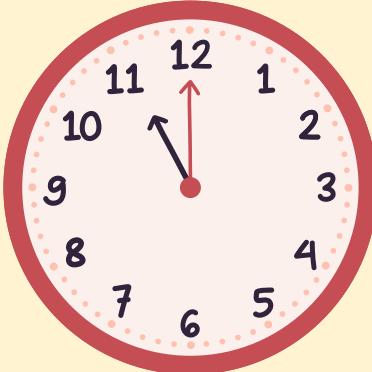
Your Assignment Score Is 1/2

Topics For Review:

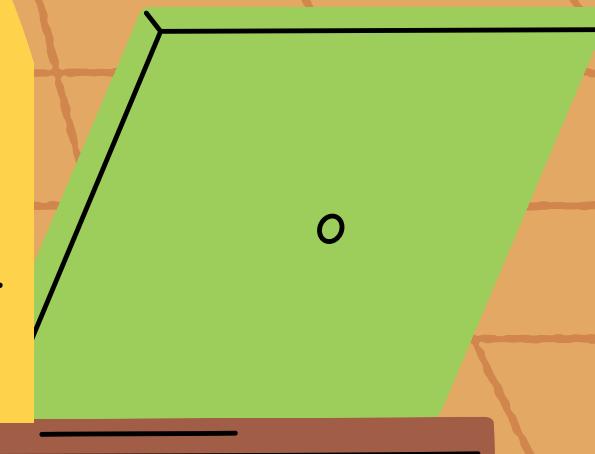
Kia's Feedback Here

Download Report

Ask Kia



Perfect! Now I  
know where to  
focus my studying.





# Hello, Anjali!

I am KIA, your virtual companion at SEEK.

You may click on one of the options below or type in your query.



## Academic Queries

Ask academic doubts or questions



## Generate Notes

Get topic-specific bullet-point notes



Ask Kia anything here...





## Generate Topic-Specific Notes

Regres

Search

Regression

Auto-regressive model

Linear Regression

Probabilistic Regression Model

Logistic Regression

Reset Session



## Notes on Regression

Topic notes go here...

- Bullet point 1
- Bullet point 2

Download as PDF 

Topics to 1  
Regression  
R.F.C  
Tensorflow

Reset Session



## Machine Learning Practices

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- ~ Week 9

- ## Week 10

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- Week 12

## Generate Mock End-Term Quiz

- ▼ Supplementary Content

## Generate Topic-Specific Questions



# Generate Topic-Specific Questions



regress

## Search

## Regression

## Auto-regressive model

## Linear Regression

## Probabilistic Regression Model

## Logistic Regression



Ask Kia

## Machine Learning Practices

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Supplementary Content

Generate Topic-Specific Questions

## Practice Questions on **Regression**

1. Which of the following is NOT a type of regression?

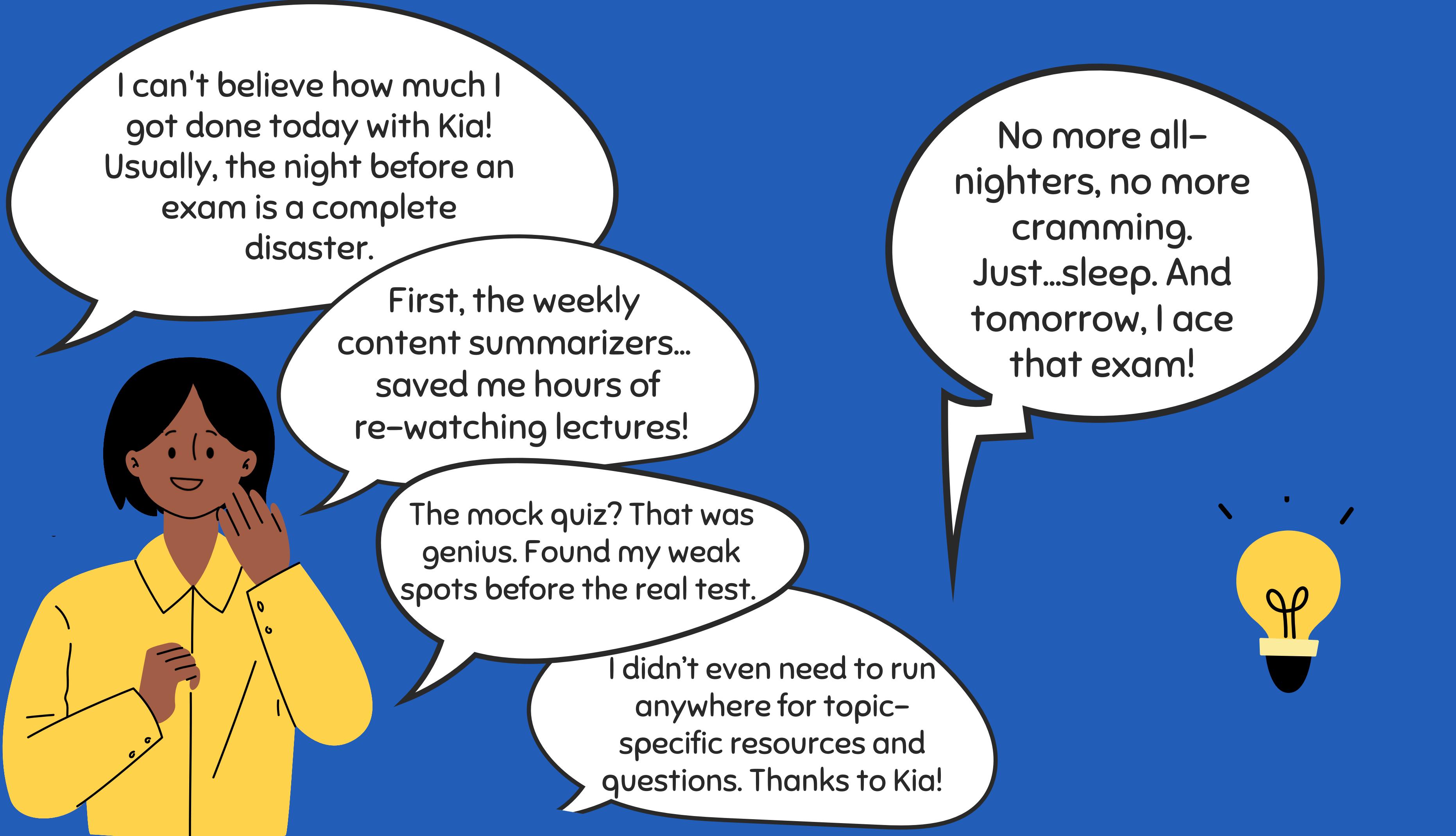
- Polynomial Regression
- K-Means Regression
- Random Forest Regression

2. Which of the following statements about Linear Regression are true?

- It assumes a linear relationship between independent and dependent variables
- It can be affected by multicollinearity among features
- It works well with categorical target variables
- It minimizes the sum of squared errors

Check Score

Ask Kia



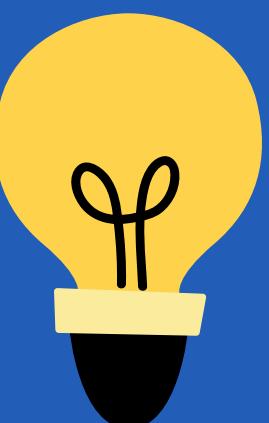
I can't believe how much I got done today with Kia! Usually, the night before an exam is a complete disaster.

First, the weekly content summarizers... saved me hours of re-watching lectures!

The mock quiz? That was genius. Found my weak spots before the real test.

I didn't even need to run anywhere for topic-specific resources and questions. Thanks to Kia!

No more all-nighters, no more cramming. Just...sleep. And tomorrow, I ace that exam!



Trapped in a maze of formulae and scattered lecture slides, Anjali struggles as multiple regression clouds her understanding. She seeks **Kia** for help, who remembers more than just equations.

I don't fully understand how  
multiple regression works.  
Searching through all these  
lecture slides is taking forever!

If only I could get a quick and  
clear explanation without  
digging through multiple  
resources.



## Hello, Anjali!

I am KIA, your virtual companion at SEEK.

You may click on one of the options below or type in your query.



### Academic Queries

Ask academic doubts or questions



### Generate Notes

Get topic-specific bullet-point notes



Ask Kia anything here...





## Academic Query Support



Hey There! How can I help you today?

When should I use simple versus multiple regression?



Simple and multiple regression are both techniques used to model relationships between variables, but they differ in complexity and purpose. Here's when to use each:

### **When to Use Simple Regression**

- Single Predictor Focus:**

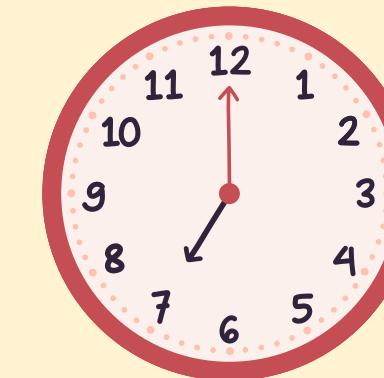
Use simple regression when you believe that one independent variable is the primary driver of your

Ask a question



Reset Session

Yesterday Kia explained  
when to use simple vs. multiple  
regression. But now I need to know how  
to decide which independent variables  
are important in multiple regression.  
Will I have to explain everything again?



 Academic Query Support

Hey There! How can I help you today?

How do I decide which independent variables to include in multiple regression?



Since you **previously asked** about when to use simple and multiple regression, let me build on that.

To select the right independent variables for multiple regression, consider:

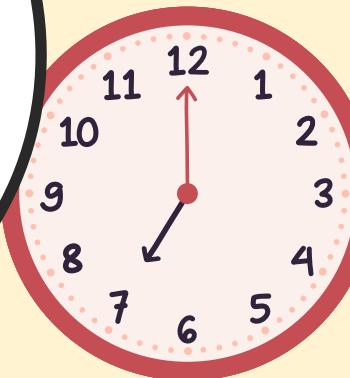
- **Correlation Strength:** Use variables that show a

Ask a question



Reset Session

Kia is just amazing! I don't have to keep re-explaining my doubts, it keeps track of what I ask.



From now on, I'll use this for all my study queries. No redundant discussions!

Anjali is working on a programming assignment but encounters a complicated error. Frustration builds, but Kia steps in, simplifying the error and guiding her to a solution.

What does this error  
mean? 'TypeError:  
NoneType object is not  
callable'? I have no idea  
where this went wrong!

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## Programming Assignment 1: Train an SVM Classifier

Write a code in Python to train an SVM Classifier with specific parameters and datapoints.

# Wrong code

0/4 Test cases passed

Submit

### Output

# Wrong output

Explain Error

Ask Kia

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## Programming Assignment 1: Train an SVM Classifier

Write a code in Python to train an SVM Classifier with specific parameters and datapoints.

```
# Wrong code
```

0/4 Test cases passed

Submit

### Output

```
TypeError: NoneType object is not callable
```

Explain Error

#### Here's what this error means:

- A function or variable in your code is being treated as something that can be called, but it's actually **None**.
- This usually happens when you accidentally overwrite a function with a variable of the same name or forget to return a value from a function.

Ask Kia



Finally! Now I know what this error means and how to debug it if I see it again.

Kia makes error messages so much easier to understand. It's like having a tutor who explains things in simple English!

**Teaching Assistant Soumya's inbox overflows,  
and Prof. Ashish becomes overburdened as  
office hours begin. But this term, Kia handles  
the tidal wave – freeing human expertise for  
where it matters most.**



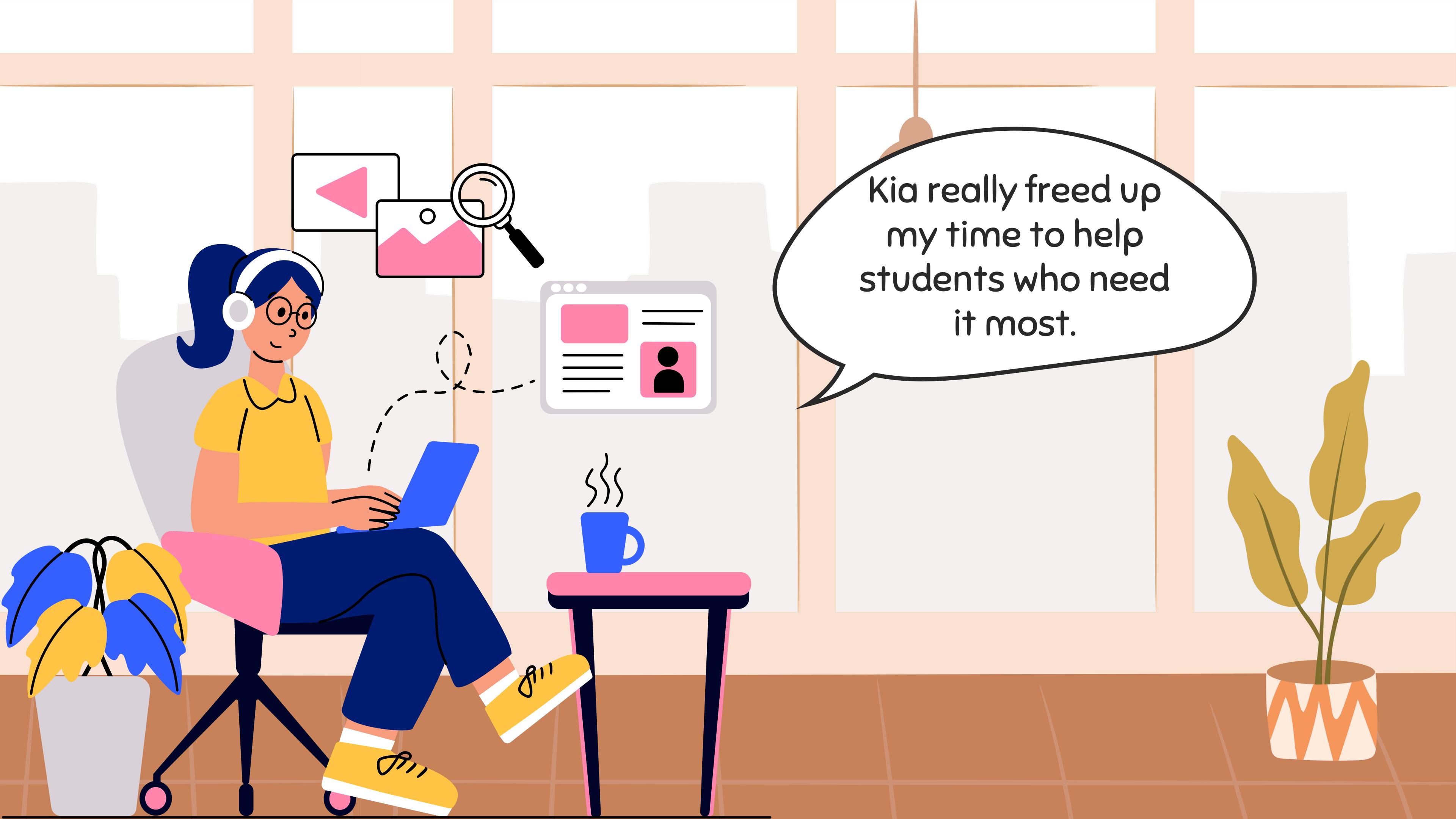
Office hours... here we go. Hope I can answer everyone's questions in time.



Wow, Kia is handling  
the routine  
academic queries  
perfectly!



Okay, this student is  
struggling with a core  
concept... now I can  
actually focus on helping  
them.



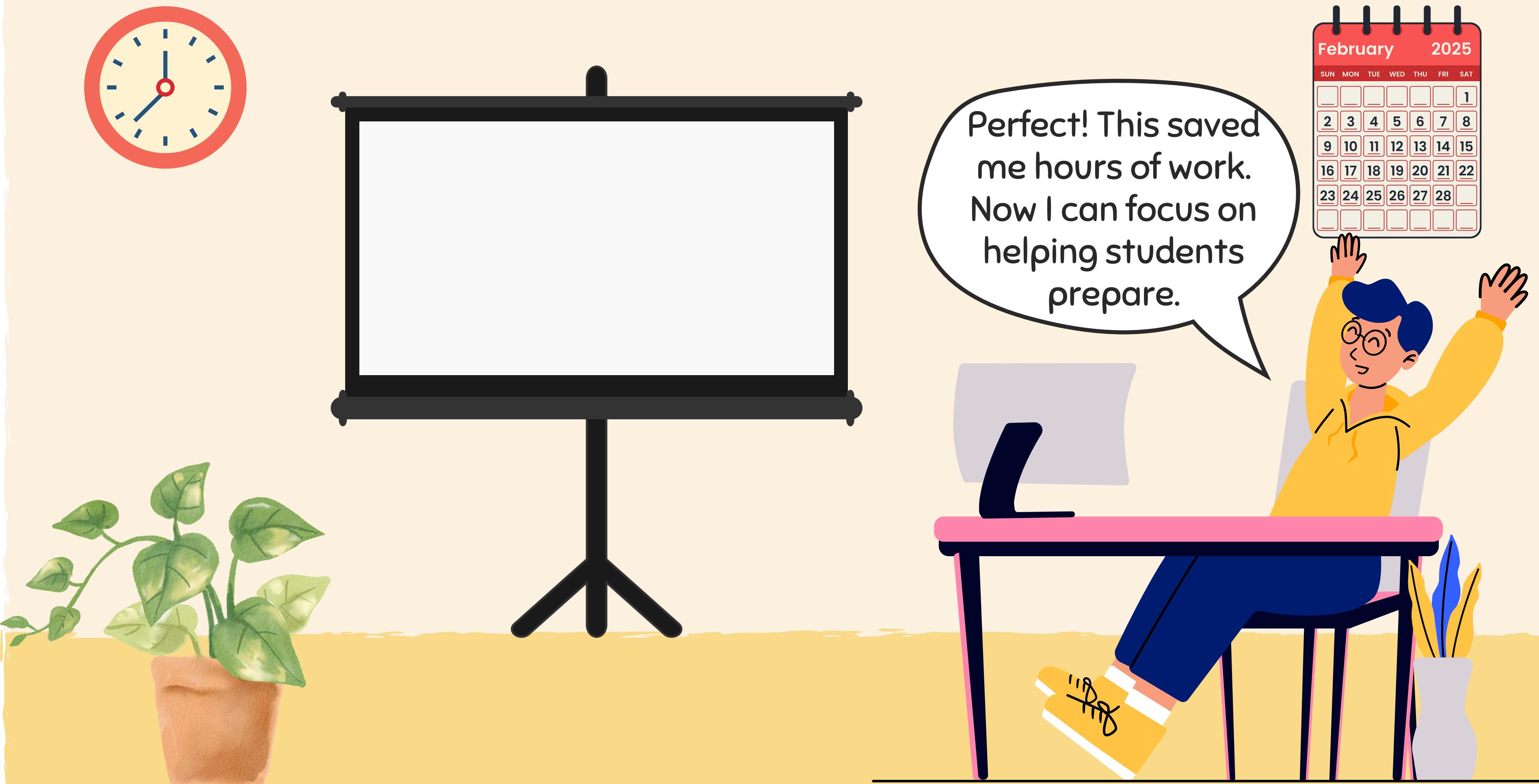
Kia really freed up  
my time to help  
students who need  
it most.

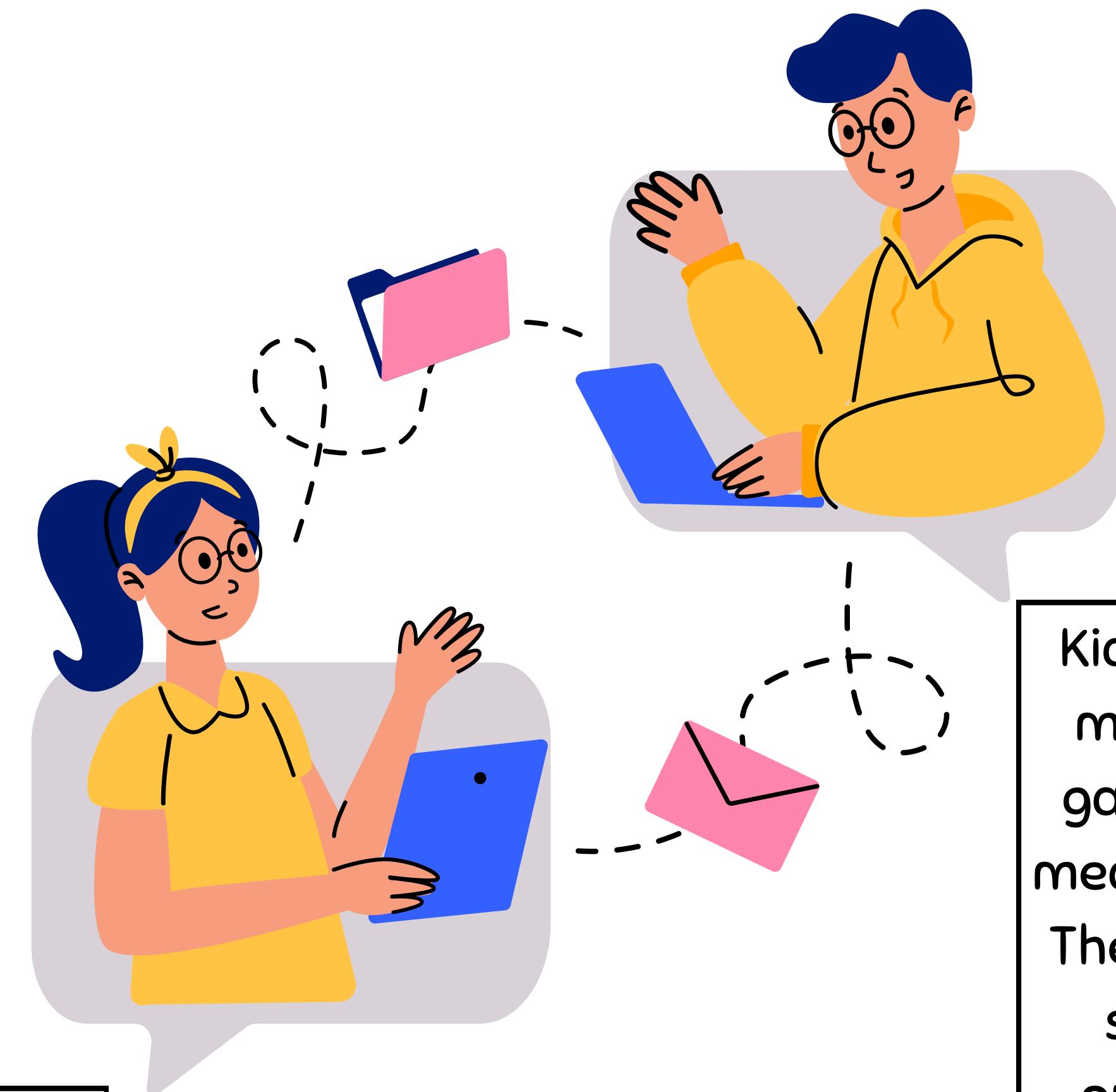


I need to create mock quizzes for the end-term exam that challenge my students appropriately. But where do I find the time?



# *Prof. Ashish learns about Kia's ability to generate mock quizzes...*





Finally, a way to provide better guidance support without getting overwhelmed.

Kia not only saved me time but also gave my students meaningful practice. They're going to be so much more prepared for the finals!

**As a support team member, Priyam's mission is  
to uncover how users are engaging with Kia's  
features and identify opportunities for  
improvement.**

Are users engaging  
with all the features,  
or are some being  
ignored?

Let's see...  
timestamps, feature  
calls, user IDs...  
everything I need is  
here



*Using log analysis tools,  
Priyam transforms raw server  
data into actionable insights ...*



Feature adoption trends...  
engagement rates...  
even anomalies.  
This is gold!

Looks like the 'Topic-Specific Questions Generation' feature isn't getting much traction. Why?

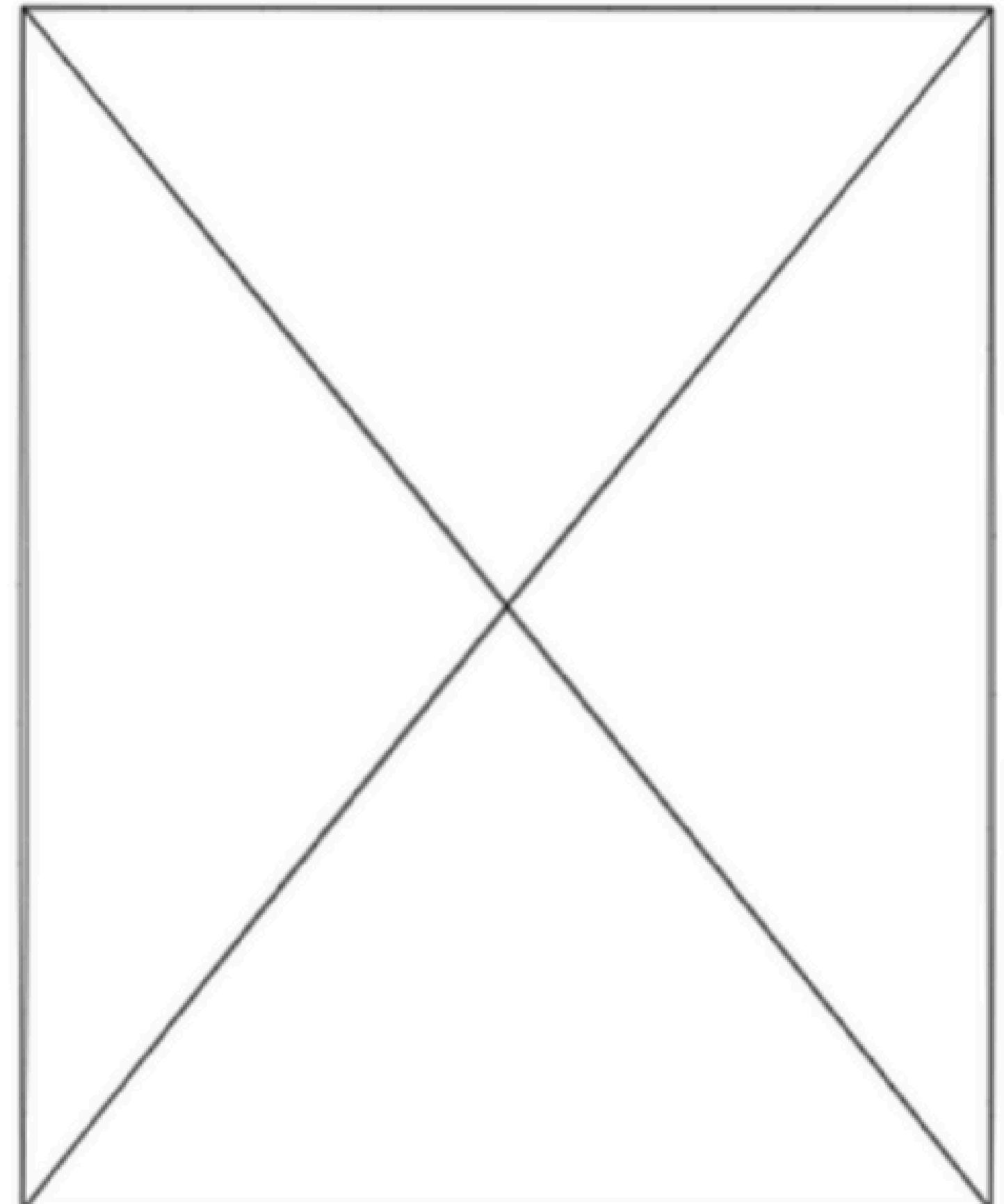
Could it be too complex or just not well-promoted? I should flag this for the product team.

*Armed with insights, Priyam collaborates with the product team to improve feature visibility and usability.*

# WIREFRAMES

# SEEK

[Register](#)



## Login

Email

Password

 ()

[Login](#)

 [Sign In With Google](#)

New User? [Register](#)

# SEEK

## Create An Account

Full Name

Email

Password

Confirm Password

  Sign In With Google

Existing User? [Login](#)

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## 1.2: Scikit-Learn

IIT Madras  
BSc. Degree

# Introduction to Scikit-Learn (sklearn)

0:11 / 14:18

Summarize Lecture

Ask Kia

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## 1.2: Scikit-Learn

The video player interface displays the title "Introduction to Scikit-Learn (sklearn)" in large, bold, black font. In the top right corner, there is a circular logo for "IIT Madras DS6: Deep Dive". The video progress bar shows 0:11 / 14:18. Below the progress bar are standard video control icons: back, forward, play/pause, volume, and settings. To the right of the video frame, there is a small thumbnail image of a person sitting at a desk.

Summarize Lecture

Video content summary goes here ...

Copy Text

Ask Kia

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## Programming Assignment 1: Train an SVM Classifier

Write a code in Python to train an SVM Classifier with specific parameters and datapoints.

# Write your Python code here ...

 Submit

 Ask Kia

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## Programming Assignment 1: Train an SVM Classifier

Write a code in Python to train an SVM Classifier with specific parameters and datapoints.

# Right code

2/2 test cases passed

 Submit

## Output

# Right output

 Ask Kia

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# Wrong code

0/2 test cases passed

 Submit

## Output

# Wrong output

 Explain Error

 Ask Kia

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## Programming Assignment 1: Train an SVM Classifier

Write a code in Python to train an SVM Classifier with specific parameters and datapoints.

# Wrong code

0/2 test cases passed

 Run & Submit

### Output

# Wrong output

 Explain Error

Error explanation goes here ...

 Ask Kia

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## Week 1 Summary

Week 1 Summary goes here ...

- Bullet point 1
- Bullet point 2

Download as PDF 

# Wrong output

 Ask Kia

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## Mock Quiz 1

1) What is the full form of ML?

1 point

- Machine Language
- Machine Learning
- Macro Learning

2. Which of the following is a type of supervised learning?

1 point

- Clustering
- Regression
- Dimensionality Reduction
- Association Rule Mining

Check Score

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## Mock Quiz 1

1. What is the full form of ML? 1 point

- Machine Language
- Machine Learning
- Macro Learning

2. Which of the following is a type of supervised learning?

1 point

- Clustering
- Regression
- Dimensionality Reduction
- Association Rule Mining

**Check Score**

Your Assignment Score Is 1/2

 Topics For Review:

Kia's Feedback Here

 Download Report

 Ask Kia

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 Generate Topic-Specific Questions



## Generate Topic-Specific Questions



regress

Search

Regression

Auto-regressive model

Linear Regression

Probabilistic Regression Model

Logistic Regression

# Wrong output

 Ask Kia

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## Practice Questions on **Regression**

1. Which of the following is NOT a type of regression?

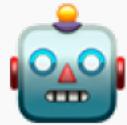
- Polynomial Regression
- K-Means Regression
- Random Forest Regression

2. Which of the following statements about Linear Regression are true?

- It assumes a linear relationship between independent and dependent variables
- It can be affected by multicollinearity among features
- It works well with categorical target variables
- It minimizes the sum of squared errors

Check Score

 Ask Kia



## Hello, User!

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You may click on one of the options below or type in your query.

# Wrong code



### Academic Queries

Ask academic doubts or  
questions



### Generate Notes

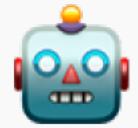
Get topic-specific bullet-point  
notes



Ask Kia anything here...



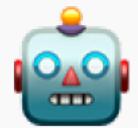
## Academic Query Support



Hey There! How can I help you today?

# Wrong code

User Query



Response

Ask a question



Reset Session

## Generate Topic-Specific Notes

Regres

Search

Regression

Auto-regressive model

Linear Regression

Probabilistic Regression Model

Logistic Regression

Reset Session

## Notes on Regression

Topic notes go here...

- Bullet point 1
- Bullet point 2

Download as PDF 

Reset Session