

Exam Questions Review



Noreen Hasan

Cloud Author at Pluralsight





Basic AI Concepts and Terminologies



A company is developing a recommendation system for an online shopping platform. The goal is for the system to enhance suggestions based on user behavior and feedback over time. Which AI learning strategy enables this adaptive improvement?



A

Unsupervised learning to identify patterns in user preferences

B

Supervised learning with a fixed dataset of past purchases and ratings

C

Supervised learning with an evolving dataset of customer interactions

D

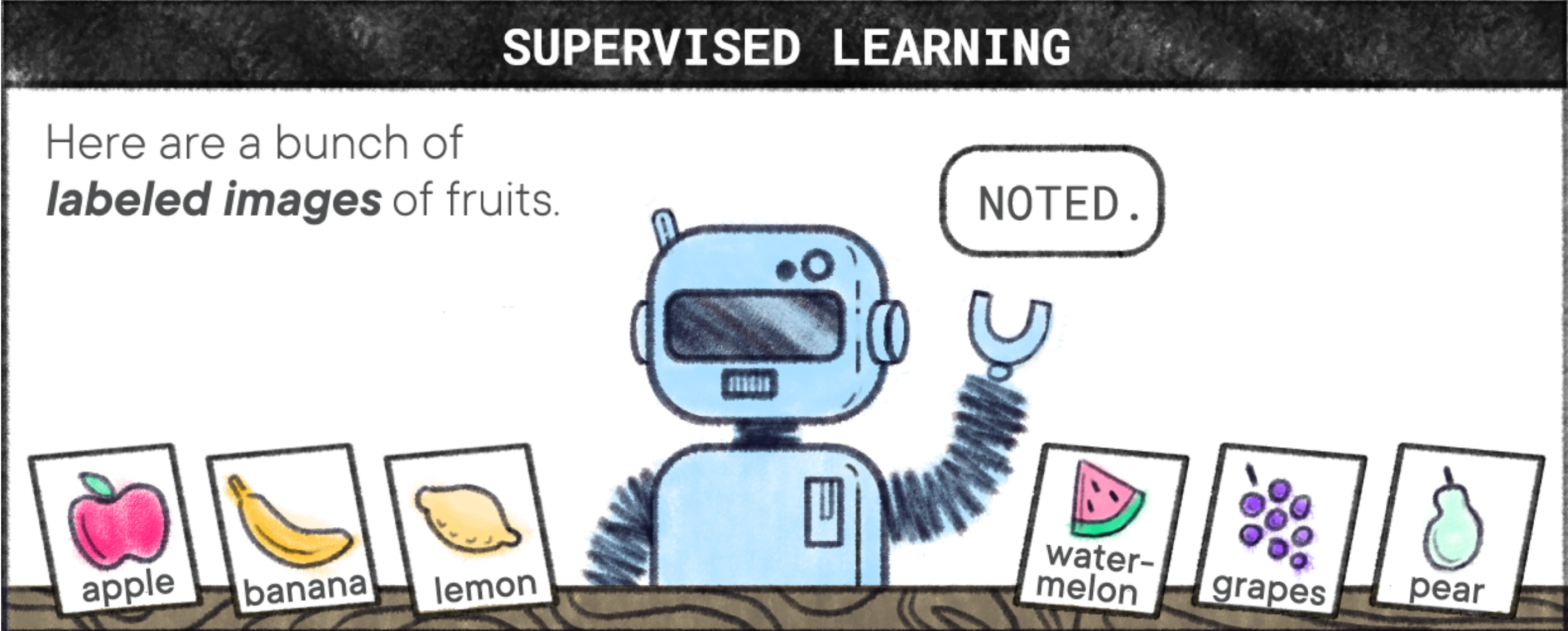
Reinforcement learning with rewards based on customer engagement metrics



Different Types of Machine Learning

SUPERVISED LEARNING

Here are a bunch of **labeled images** of fruits.

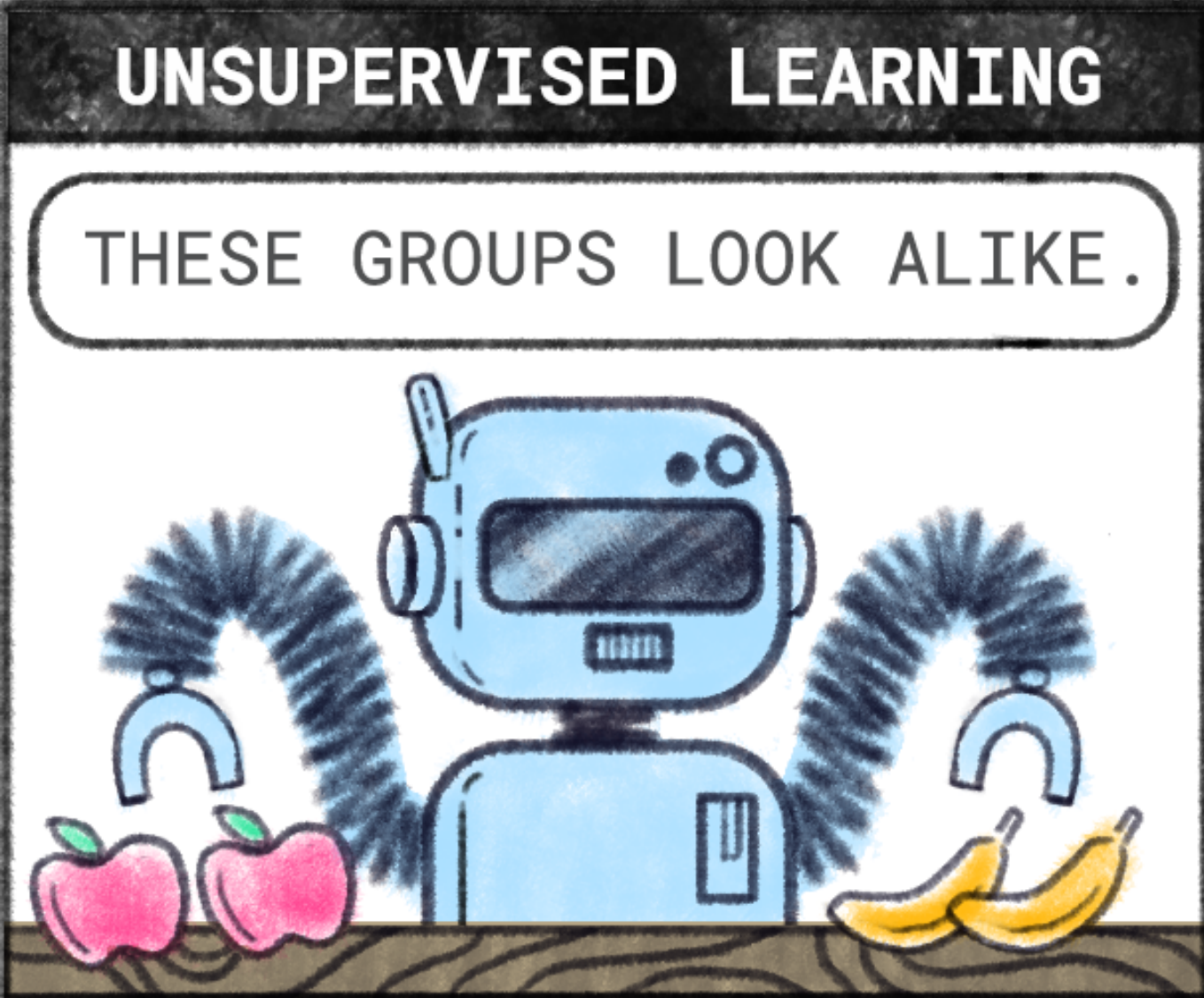


apple banana lemon watermelon grapes pear

NOTED.

UNSUPERVISED LEARNING

THESE GROUPS LOOK ALIKE.

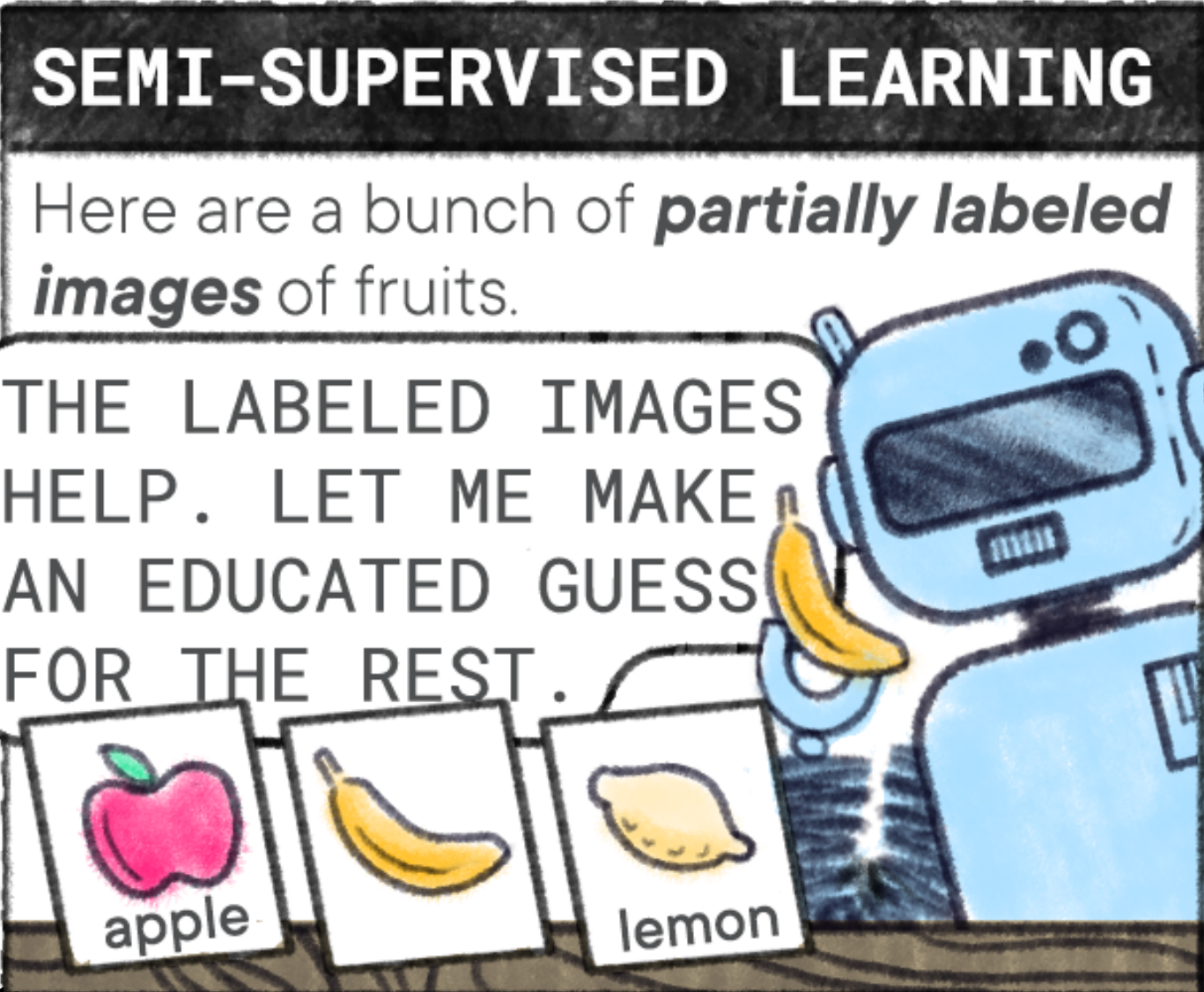


apple apple banana banana

SEMI-SUPERVISED LEARNING

Here are a bunch of **partially labeled images** of fruits.

THE LABELED IMAGES HELP. LET ME MAKE AN EDUCATED GUESS FOR THE REST.

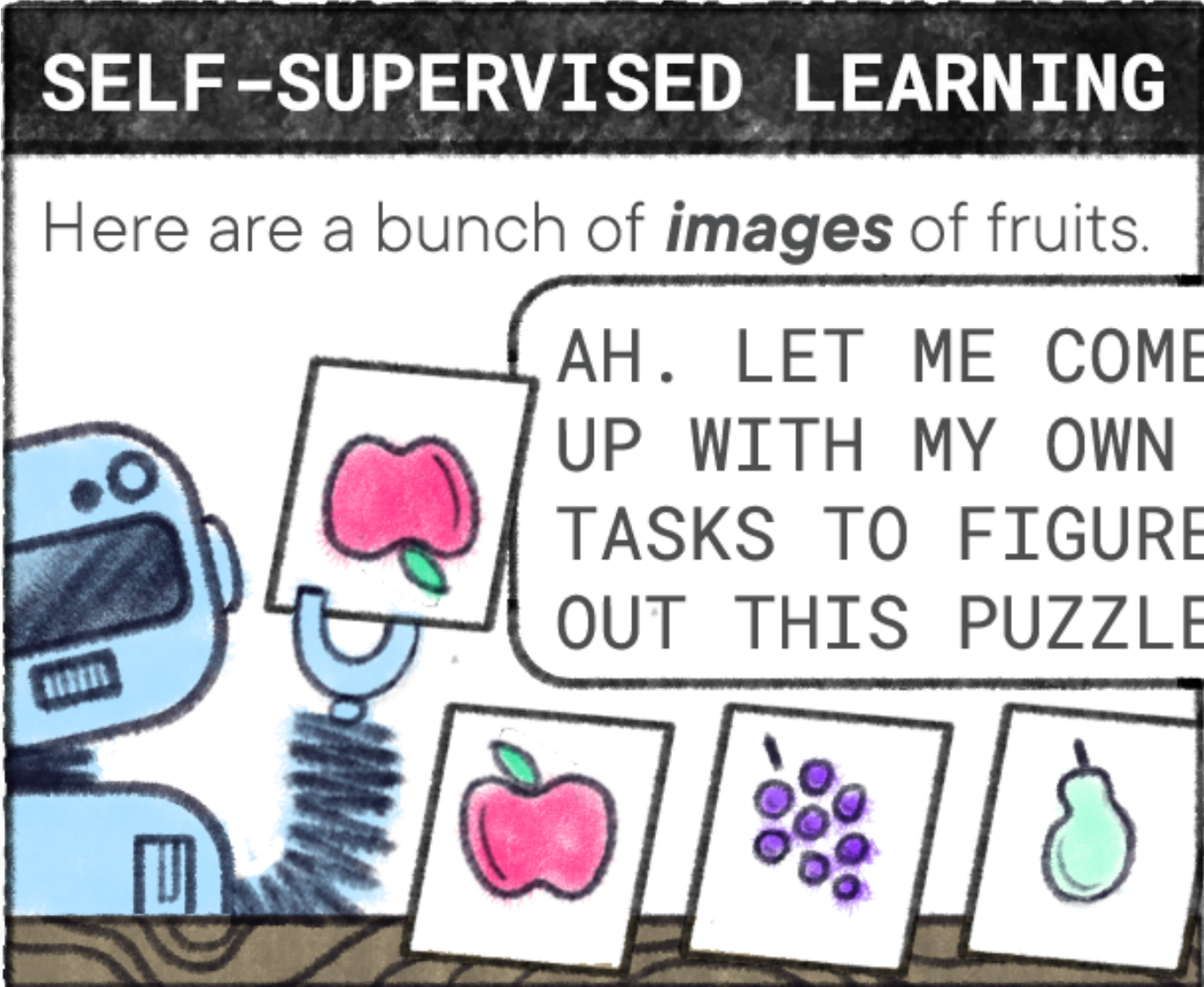


apple banana lemon

SELF-SUPERVISED LEARNING

Here are a bunch of **images** of fruits.

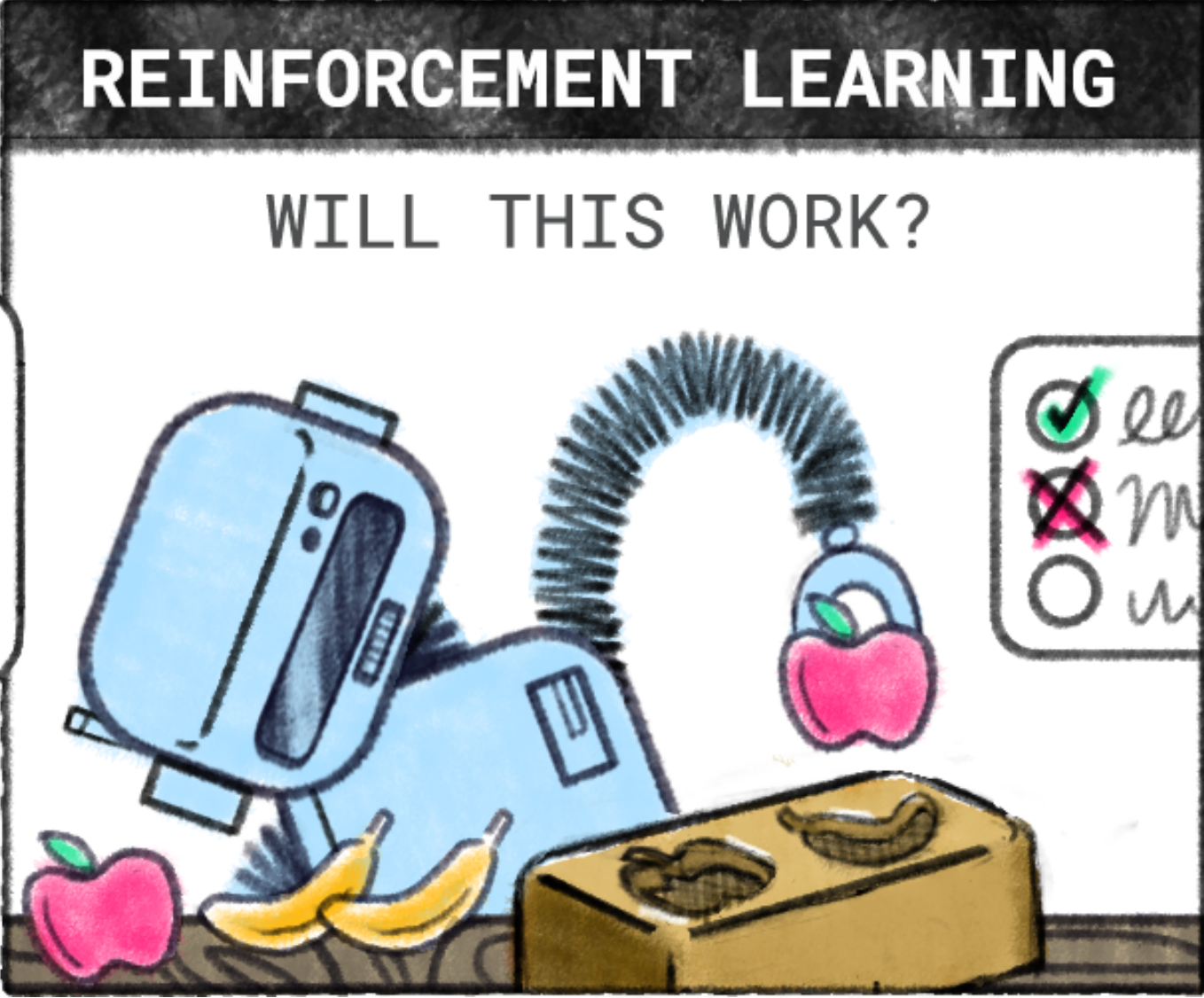
AH. LET ME COME UP WITH MY OWN TASKS TO FIGURE OUT THIS PUZZLE.



apple grapes pear

REINFORCEMENT LEARNING

WILL THIS WORK?



apple banana

- ll
- m
- w



A

Unsupervised learning to identify patterns in user preferences

B

Supervised learning with a fixed dataset of past purchases and ratings

C

Supervised learning with an evolving dataset of customer interactions

D

Reinforcement learning with rewards based on customer engagement metrics





The Machine Learning Pipeline



A company has developed a classification model to identify whether emails are spam or not. After training and validating the model, the company wants to evaluate its performance using a metric that represents the overall proportion of correct predictions. Which evaluation metric should the company use?



A

R^2 (R Squared)

B

Root Mean Squared Error (RMSE)

C

F1 Score

D

Accuracy



Evaluation Metrics for Regression Models

Actual	Predicted	Error
\$300	\$340	\$40
\$400	\$390	\$10
\$250	\$260	\$10

To find the difference between predicted values and actual values:

- Mean Absolute Error (MAE)
- Root Mean Squared Error (RMSE)

To find how well a model can predict something based on the information you have:

- R^2 (R Squared)



Evaluation Metrics for Classification Models

Accuracy

Number of times the model got it right out of all the predictions it made

Precision

Number of the items the model predicted as positive were actually positive

Recall (Sensitivity)

Number of the actual positive items were correctly identified by the model

F1 Score

A single number that combines precision and recall to give a balanced view of the model's performance



A

R^2 (R Squared)

B

Root Mean Squared Error (RMSE)

C

F1 Score

D

Accuracy





AWS Managed AI/ML Services and Applications



A company is developing a sentiment analysis tool to assess customer feedback from various sources. The goal is to automatically analyze text data and derive insights about customer emotions and key themes. Which solution meets these requirements?



A

Amazon Textract

B

Amazon Comprehend

C

Amazon SageMaker

D

Amazon Rekognition



Amazon Textract automatically extracts text and data from scanned documents



Amazon Textract



Extract text



```
{  
  "medication": "Amoxicillin",  
  "dosage": "500 mg",  
  "quantity": "30",  
  "refills": "2"  
  ...  
}
```

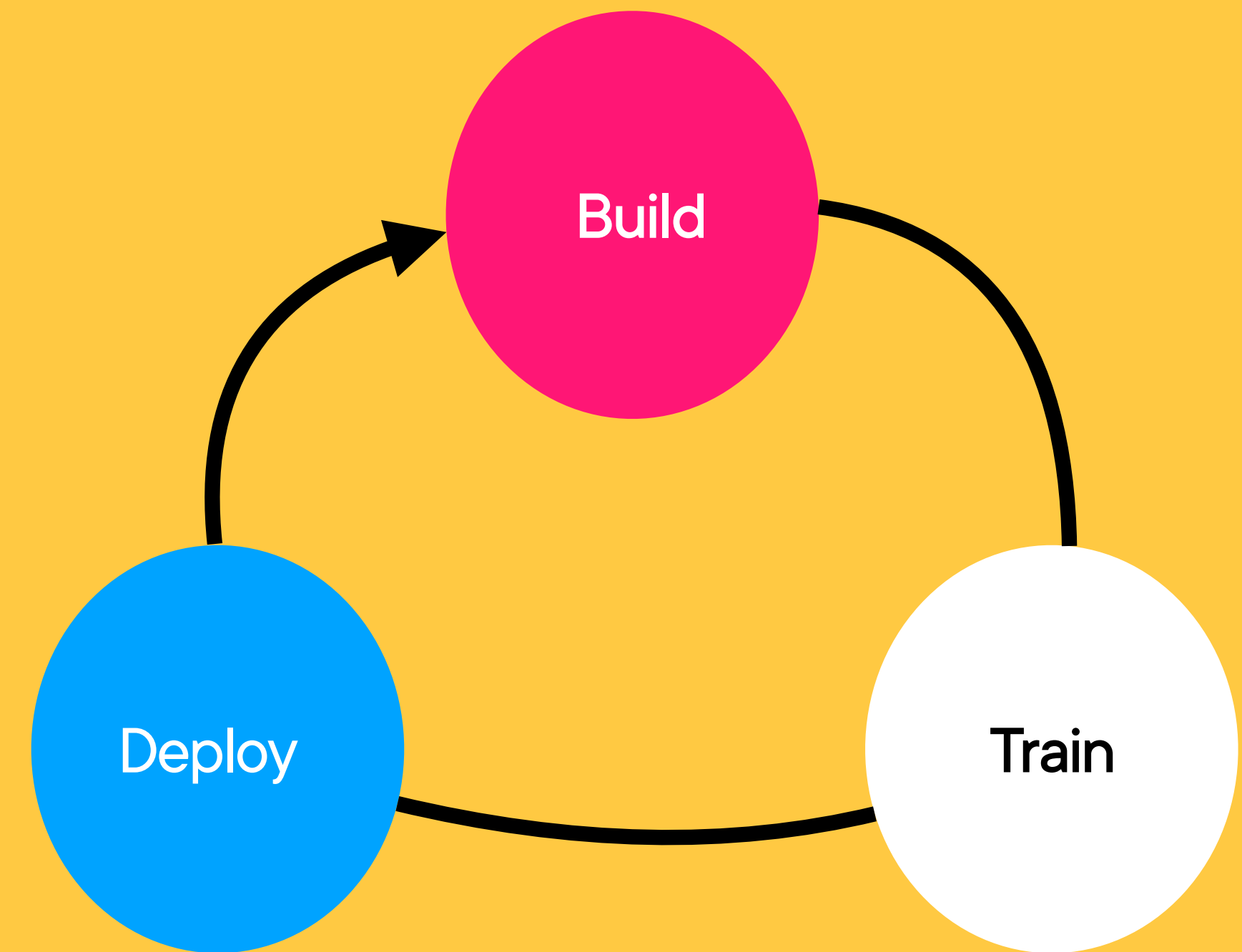


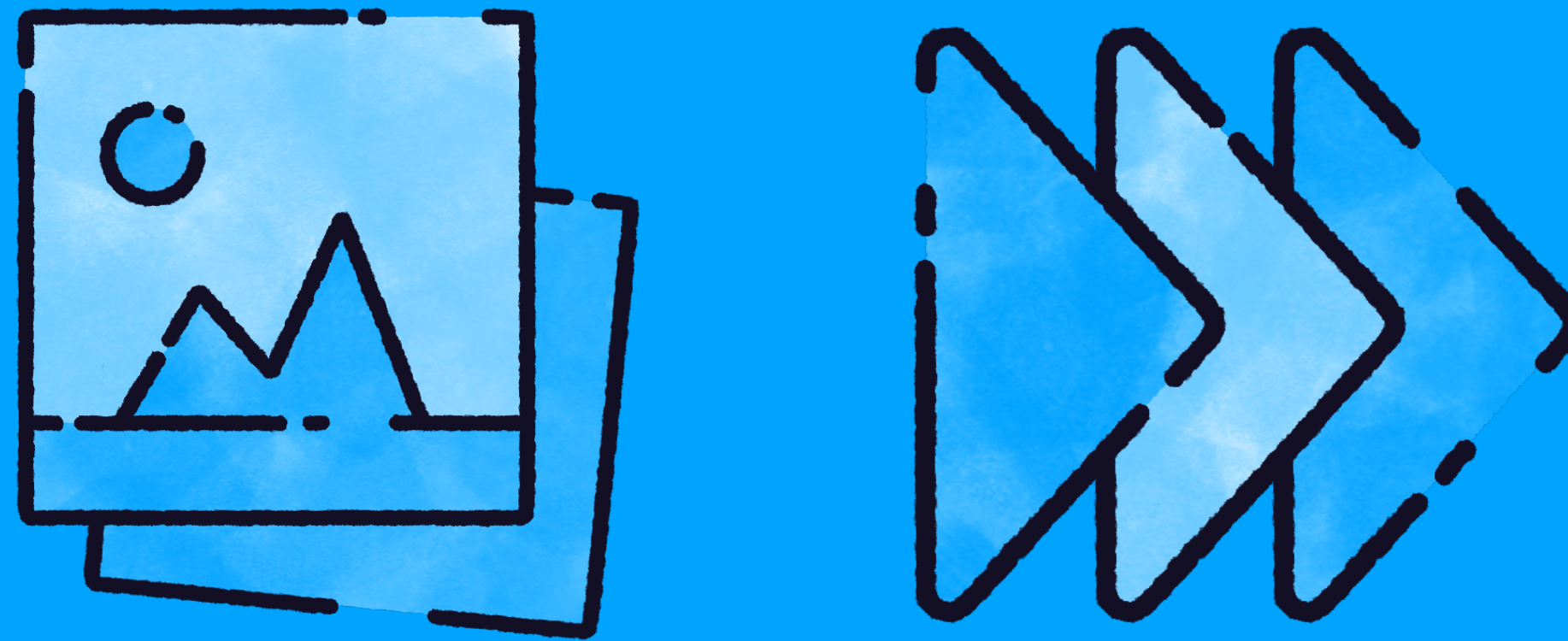


Amazon Comprehend allows computers to understand meaning and sentiment behind text



Amazon SageMaker is a fully managed service that helps you build, train, and deploy machine learning models quickly





Amazon Rekognition helps computers “see” and make sense of images and videos using ML



A

Amazon Textract

B

Amazon Comprehend

C

Amazon SageMaker

D

Amazon Rekognition





Unpacking Amazon SageMaker



Which Amazon SageMaker service is designed to streamline the data preparation process by allowing users to visually clean and transform data for machine learning?



A

Amazon SageMaker Feature Store

B

Amazon SageMaker Clarify

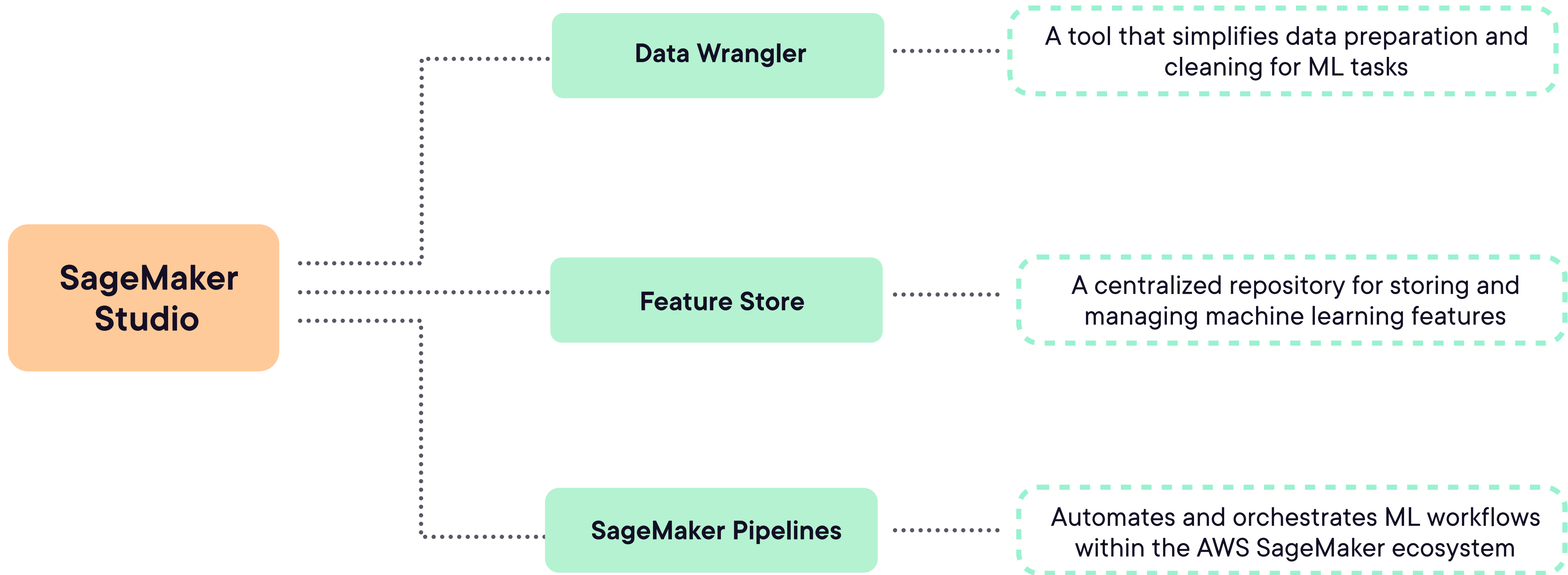
C

Amazon SageMaker Pipelines

D

Amazon SageMaker Data Wrangler





A

Amazon SageMaker Feature Store

B

Amazon SageMaker Clarify

C

Amazon SageMaker Model Dashboard

D

Amazon SageMaker Data Wrangler



Best of luck on the AWS Certified AI Practitioner exam!

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