

1. A company forecasts each quarter to decide how to optimize operations to meet expected demand. The company uses ML models to make these forecasts. An AI practitioner is writing a report about the trained ML models to provide transparency and explain-ability to company stakeholders. What should the AI practitioner include in the report to meet the transparency and explain-ability requirements?

- (a) Code For Model Training
- (b) Partial Dependence Plots (PDPs)
- (c) Sample Data For Training
- (d) Model Convergence Tables

B. Partial Dependence Plots (PDPs) as it shows the marginal effect one or two features have on the predicted outcome of a machine learning model.

2. A law firm wants to build an AI application by using Large Language Models (LLM). This application will read legal documents and extract key points from the documents. Which solution meets the requirements?

- (a) Build an automatic named entity recognition system
- (b) Create a recommendation engine
- (c) Develop a summarization chatbot
- (d) Develop a multi-language translation system

(C) Develop a summarization chatbot

3. A company wants to classify human genes into 20 categories based on gene characteristics. The company needs an ML algorithm to document how the inner mechanism of the model affects output. Which ML algorithm meets these requirements?

- (a) Decision Tree
- (b) Linear Regression
- (c) Logistic Regression
- (d) Neural Networks

(A) Decision Tree uses rules to make decisions and in this case there are rules based on the gene characteristics.

4. A company has built an image classification model to predict plant diseases from photos of plant leaves. The company wants to evaluate how many images the model classified correctly. Which evaluation metric should the company use to measure the model's performance?

- (a) R Squared Score
- (b) Accuracy
- (c) Root Mean Squared Error (RMSE)
- (d) Learning Rate

(B) Accuracy - As it evaluates the correct rate over the available data.

5. A company is using pre-trained large language models to build a chatbot for product recommendations. The company needs the LLM output to be short and written in a specific language. Which solution will align the LLM response quality with the company's expectations?

- (a) Adjust The Prompt
- (b) Choose an LLM of a different size
- (c) Increase the temperature
- (d) Increase the Top K Value

(A) Adjust the prompt because the other options will not significantly affect the needs of the output being short and written in a specific language.

6. A company uses Amazon SageMaker for its ML pipeline in a production environment. The company has large input data sizes up to 1 GB and processing time up to 1 hour. The company needs real time latency. Which SageMaker inference option meets these requirements.

- (a) Real time Inference
- (b) Serverless Inference
- (c) Asynchronous Inference
- (d) Batch Transform

(C) Asynchronous inference because it is the one listed that meets the above requirements of real time, payload size up to 1 GB, and a long processing time.

7. A company is using domain specific models. The company wants to avoid creating new models from the beginning. The company instead wants to adapt pre-trained models to create models for new, related tasks. Which ML strategy meets these requirements.

- (a) Increase the number of epochs
- (b) Use Transfer Learning
- (c) Decrease the number of epochs
- (d) Use unsupervised learning

(B) Recall that transfer learning is a technique that uses previously learned knowledge to help learning new things.

8. A company is building a solution to generate images for protective eyewear. The solution must have high accuracy and minimize the risk of incorrect annotations. Which solution will meet these requirements?

- (a) Human In Loop Validation by using Amazon SageMaker Ground Truth Plus
- (b) Data augmentation by using Amazon Bedrock knowledge base
- (c) Image recognition by using Amazon Rekognition
- (d) Data summarization by using Amazon QuickSight Q

(A) The option that meets the given requirements.

9. A company wants to create a chatbot by using a foundation model (FM) on Amazon Bedrock. The FM needs to access encrypted data that is stored in a S3 Bucket. The data is encrypted with the S3 managed keys (SSE-S3). The FM encounters a failure when attempting to access the S3 bucket data. Which solution will meet these requirements.

- (a) Ensure that the role that A. Bedrock assumes has permission to decrypt data with the correct encryption key.
- (b) Set the access permission for the S3 buckets to allow public access to enable access over the internet
- (c) Use prompt engineering techniques to tell the model to look for information in S3
- (d) Ensure that the S3 data does not contain sensitive information

(A) Ensure that the role that A. Bedrock assumes has permission to decrypt data with the correct encryption key..

10. A company wants to use language models to create an application for inference on edge devices. The inference must have the lowest latency possible. Which solution will meet these requirements?
- (a) Deploy optimized small language models (SLMs) on edge devices
 - (b) Deploy optimized large language models (LLMs) on edge devices
 - (c) Incorporate a centralized small language model (SLM) API for asynchronous communication with edge devices
 - (d) Incorporate a centralized large language model (LLM) API for asynchronous communication with edge devices
- (A) Deploy optimized small large language models on edge devices**
11. A company wants to build an ML model by using Amazon SageMaker. The company needs to share and manage variables for model development across multiple teams. Which SageMaker feature meets these requirements?
- (a) SageMaker Feature Store
 - (b) SageMaker Data Wrangler
 - (c) SageMaker Clarify
 - (d) SageMaker Model Cards
- (A) SageMaker Feature Store as it ingests features from variety of sources.**
12. A company wants to use gen AI to increase developer productivity and software development. The company wants to use Amazon Q Developer. What can Q Developer do to help the company meet these requirements?
- (a) Create software snippets, reference tracking, and open source license tracking
 - (b) Run an application without provisioning or managing servers
 - (c) Enable voice commands for coding and providing natural language search
 - (d) Convert audio files to text documents by using ML models
- (A) Recall that Q Developer has the features listed in (A) whereas the other choices are provided or suitable for other services.**
13. A financial institution is using Amazon Bedrock to develop an AI application. The application is hosted in a VPC. To meet regulatory compliance standards, the VPC is not allowed to access to any internet traffic. Which AWS service or feature will meet these requirements?
- (a) AWS PrivateLink
 - (b) Amazon Macie
 - (c) Amazon CloudFront
 - (d) Internet Gateway

(A) Based on the given choices PrivateLink is one of the services used to protect from exfiltration and manipulation.

14. A company wants to develop an educational game where users answer questions such as the following: "A jar contains six red, four green, and three yellow marbles. What is the probability of choosing a green marble from a jar?" Which solution meets these requirements with the LEAST operational overhead?
- (a) Use supervised learning to create a regression model that will predict probability
 - (b) Use reinforcement learning to train a model to return the probability
 - (c) Use code that will calculate probability by using simple rules and computations
 - (d) Use unsupervised learning to create a model that will estimate probability density
- (c) For deterministic problems (the solution can be computed), it is better to write computer code that is adapted to the problem.**
15. Which metric measures the runtime efficiency of operating AI models?
- (a) Customer Satisfaction Score (CSAT)
 - (b) Training time for each epoch
 - (c) Average response time
 - (d) Number of training instances
- (C) Average response time.**
16. A company is building a contact center application and wants to gain insights from customer conversations. The company wants to analyze and extract key information from the audio of the customer calls. Which solution meets these requirements?
- (a) Build a conversational chatbot using Amazon Lex
 - (b) Transcribe call recordings by using Amazon Transcribe
 - (c) Extract information from call recordings by using Amazon SageMaker Model Monitor
 - (d) Create classification labels by using Amazon Comprehend
- (B) Amazon Transcribe uses Auto Speech Recognition to convert speech to text**
17. A company has petabytes of unlabeled customer data to use for an advertisement campaign. The company wants to classify its customers into tiers to advertise and promote the company's products. Which methodology should the company use to meet these requirements?
- (a) Supervised Learning
 - (b) Unsupervised Learning
 - (c) Reinforcement Learning
 - (d) Reinforcement Learning From Human Feedback (RLHF)
- (b) Unsupervised Learning because the customer data is unlabeled and the goal is to classify its customers.**
18. An AI Practitioner wants to use a foundation model (FM) to design a search application. The search application must handle queries that have text and images. Which type of FM should the AI practitioner use to power the search application?
- (a) Multi-Modal embedding model
 - (b) Text embedding model
 - (c) Multi-Modal Generation Model
 - (d) Image Generation Model
- (a).**

19. A company uses a foundational model (FM) from Amazon Bedrock for an AI search tool. The company wants to fine-tune the model to be more accurate by using company's data. Which strategy will successfully fine-tune the model?
- (a) Provide labeled data with the prompt field and completion field
 - (b) Prepare the training dataset by creating .txt file that contains multiple lines in .csv format
 - (c) Purchase Provisioned Throughput for Amazon Bedrock
 - (d) Train the model on journal and textbooks
- (a).**
20. A company wants to use AI to protect its application from threats. The AI solution needs to check if an IP address is from a suspicious source. Which solution meets these requirements?
- (a) Build a speech recognition system
 - (b) Create a natural language processing (NLP) named entity recognition system
 - (c) Develop an anomaly detection system.
 - (d) Create a fraud forecasting system
- (c).**
21. Which feature of Amazon OpenSearch service gives companies the ability to build vector database application?
- (a) Integration with S3 for object storage
 - (b) Support for geospatial indexing and queries
 - (c) Scalable index management and nearest neighbor search capability
 - (d) Ability to perform real-time analysis on streaming data
- (c). OpenSearch comes with real time similarity queries, store millions of vector embedding, scalable index management, and fast nearest neighbor (kNN) search capability.**
22. Which option is a use case for Gen AI models?
- (a) Improving network security by using intrusion detection systems
 - (b) Creating photorealistic images from text descriptions for digital marketing
 - (c) Enhancing database performance by using optimized indexing
 - (d) Analyzing financial data to forecast stock market trends
- (b). Recall that Gen AI is about generating new data based on the data it was trained on..**
23. A company wants to build a gen AI app by using Bedrock and needs to choose a foundational model (FM). The company wants to know how much information can fit into one prompt. Which consideration will inform the company's decision?
- (a) Temperature
 - (b) Context Window
 - (c) Batch Size
 - (d) Model Size
- (b). Context Window is the number of tokens a LLM can consider when generating text.**

24. A company wants to make a chatbot to help customers. The chatbot will help solve technical problems without human intervention. The company chose a foundational model (FM) for the chatbot. The chatbot needs to produce responses that adhere to company tone. Which solution meets these requirements?
- (a) Set a low limit on the number of tokens FM can produce
 - (b) Use batch inferencing to process detailed responses
 - (c) Experiment and refine the prompt until the FM produces the desired responses
 - (d) Define a higher number for temperature parameter
- (c). By redefining the prompt companies can customize the outcome to their desired format and styling.**
25. A company wants to use a large language model (LLM) on Bedrock for sentiment analysis. The company wants to classify the sentiment of text passages as positive or negative. Which prompt engineering strategy meets these requirements?
- (a) Provide examples of text passages with corresponding positive or negative labels in the prompt followed by the new text passage to be classified
 - (b) Provide a detailed explanation of sentiment analysis and how LLMs work in the prompt
 - (c) Provide the new text passage to be classified without any additional context or examples
 - (d) Provide the new text passage with a few examples of unrelated tasks, such as text summarization or question answering
- (a). is Few Shot Prompting with the benefits including resource efficiency and reduced risk of misinterpretation.**
26. A security company is using Amazon Bedrock to run foundation models (FMs). The company wants to ensure that only authorized users invoke the models. The company needs to identify any unauthorized access attempts to set appropriate AWS Identity and Access Management (IAM) policies and roles for future iterations of the FMs. Which AWS service should the company use to identify unauthorized users that are trying to access Amazon Bedrock?
- (a) Audit Manager
 - (b) CloudTrail
 - (c) Fraud Detector
 - (d) Trusted Advisor
- (b) Based on the given options, CloudTrail tracks all of the events (successful or not)**
27. A company has developed an ML model for image classification. The company wants to deploy the model to production so that a web application can use the model. The company needs to implement a solution to host the model and serve predictions without managing any of the underlying infrastructure. Which solution will meet these requirements?
- (a) Use SageMaker Serverless Inference to deploy the model
 - (b) Use CloudFront to deploy the model
 - (c) Use API Gateway to host the model and serve predictions
 - (d) Use Batch to host the model and serve predictions
- (a) SageMaker Serverless Inference is designed for the given requirements based on the question.**

28. An AI company periodically evaluates its systems and processes with the help of independent software vendors (ISVs). The company needs to receive email message notifications when an ISV's compliance reports become available. Which AWS service can the company use to meet this requirement?
- (a) AWS Audit Manager
 - (b) AWS Artifact
 - (c) AWS Trusted Advisor
 - (d) AWS Data Exchange
- (b) When hearing the keyword "compliance documents" it should connect to AWS Artifact.**
29. A company wants to use LLM to develop a conversational agent. The company needs to prevent the LLM from being manipulated with common prompt engineering techniques to perform undesirable actions or expose sensitive information. Which action will reduce these risks?
- (a) Create a prompt template that teaches the LLM to detect attack patterns
 - (b) Increase the temperature parameter on invocation requests to the LLM
 - (c) Avoid using LLMs that are not listed in Amazon SageMaker
 - (d) Decrease the number of input tokens on invocations of the LLM
- (a)**
30. A company is using Gen AI Security Scoping Matrix to assess security responsibilities for its solutions. The company has identified four different solution scopes based on the matrix. Which solution scope gives the company the MOST ownership of security responsibilities?
- (a) Using 3rd party enterprise application that has embedded generative AI features
 - (b) Building an application by using an existing 3rd party gen AI foundation model
 - (c) Refining an existing third party gen AI foundation model by fine tuning the model by using data specific to the business
 - (d) Building and training a gen AI model from scratch by using specific data that a customer owns
- (d) Since the company is looking for the most ownership, creating their own gen AI model gives them.**
31. An AI practitioner has a database of animal photos. The AI practitioner wants to automatically identify and categorize the animals in the photos without manual human effort. Which strategy meets these requirements?
- (a) Object Detection
 - (b) Anomaly Detection
 - (c) Named Entity Recognition
 - (d) Inpainting
- (a) Object detection is a technique that uses neural networks to localize and classify objects in images. .**

32. A company wants to create an app by using Amazon Bedrock. The company has a limited budget and prefers flexibility without long-term commitment. Which Amazon Bedrock pricing models meets these requirements?
- (a) On Demand
 - (b) Model Customization
 - (c) Provisioned Throughput
 - (d) Spot Instance
- (a) Ondemand offers a pay as you go (no commitment).**
33. Which AWS service or feature can help an AI development team quickly deploy and consume a foundation models within the team's VPC?
- (a) Amazon Personalize
 - (b) Amazon SageMaker JumpStart
 - (c) PartyRock, an Amazon Bedrock Playground
 - (d) Amazon SageMaker endpoints
- (b) SageMaker JumpStart is a ML Hub to find pretrained Foundation Models.**
34. How can companies use LLMs securely on Bedrock?
- (a) Design clear and specific prompts. Configure AWS IAM roles and policies by using least privilege access
 - (b) Enable AWS Audit Manager for automatic model evaluation jobs
 - (c) Enable Amazon Bedrock automatic model evaluation jobs
 - (d) Use CloudWatch Logs to make models explainable and to monitor for bias
- (a) Through POE we see that option A gives us what the question is seeking for.**
35. A company has terabytes of data in a database that the company use for business analysis. The company wants to build an AI based app that can build a SQL query from input text that employees provide. The employees have minimal experience with technology. Which solution meets these requirements?
- (a) Generative Pre-Trained Transformers (GPT)
 - (b) Residual Neural Network
 - (c) Support Vector Machine
 - (d) WaveNet
- (a) Based on the choice (A) generates human text or computer code based on input prompt.**
36. A company built a deep learning model for object detection and deployed the model to production. Which AI process occurs when the model analyzes a new image to identify objects?
- (a) Training
 - (b) Inference
 - (c) Model Deployment
 - (d) Bias Correction
- (b) Inference is the process that a trained machine learning model* uses to draw conclusions from brand-new data.**

37. An AI practitioner is building a model to generate images of human in various professions. The AI practitioner discovered that the input data is biased and that specific attributes affect the image generation and create bias in the model. Which technique will solve the problem?

- (a) Data Augmentation for Imbalanced Classes
- (b) Model Monitoring For Class Distribution
- (c) Retrieval Augmented Generation
- (d) Watermark detection for images

(a) Data Augmentation includes making minor changes to the dataset or using deep learning to generate new data points.

38. A company is implementing the Amazon Titan foundation model by using Amazon Bedrock. The company needs to supplement the model by using relevant data from the company's private data source. Which solution will meet this requirement?

- (a) Use a different FM
- (b) Choose a lower temperature value
- (c) Create an Amazon Bedrock knowledge base
- (d) Enable model invocation

(c) The keyword here is private data source, thus, from POE we see that (c) fits the given requirements.

39. A medical company is customizing a foundation model (FM) for diagnostic purposes. The company needs the model to be transparent and explainable to meet regulatory requirements. Which solution will meet these requirements?

- (a) Configure the security and compliance by using Amazon Inspector
- (b) Generate simple metrics, reports, and examples by using Amazon SageMaker Clarify
- (c) Encrypt and secure training data by using Amazon Macie
- (d) Gather more data. Use Amazon Rekognition to add custom labels to the data

(b) - Amazon SageMaker Clarify is specifically designed to help make machine learning models more transparent and explainable by generating metrics and reports on model bias, data bias, and feature importance..

40. A company wants to deploy a conversational chatbot to answer customer questions. The chatbot is based on a fine-tuned Amazon SageMaker JumpStart model. The application must comply with multiple regulatory frameworks. Which capabilities can the company show compliance for? (Choose two.)

- (a) Auto Scaling Inference Endpoints
- (b) Threat Detection
- (c) Data Protection
- (d) Cost Optimization
- (e) Loosely Coupled Microservices

B and C - Through POE we see that B and C are the ones that fall under regulatory frameworks to comply with.

41. A company is training a foundation model (FM). The company wants to increase the accuracy of the model up to a specific acceptance level. Which solution will meet these requirements?

- (a) Decrease the batch size
- (b) Increase the epochs
- (c) Decrease the epochs
- (d) Increase the temperature parameter

(b) - larger epochs will lead to overfitting which is something we want to do in this questions case

42. A company is building LLM question answering chatbot. The company wants to decrease the number of action call center employees need to take to respond to customer question. Which business objective should the company use to evaluate the effect of the LLM chatbot?

- (a) Website engagement rate
- (b) Average call duration
- (c) Corporate social responsibility (CSR)
- (d) Regulatory Compliance

(b) - Through POE we see that average call duration is the business objectives that meet the given requirement.

43. Which functionality does Amazon SageMaker Clarify provide?

- (a) Integrates a Retrieval Augmented Generation (RAG) workflow
- (b) Monitors the quality of ML model in production
- (c) Documents critical details about ML model
- (d) Identifies potential bias during data preparation

(d) - Recall that SageMaker Clarify helps identify potential bias during data prep w/o writing code.

44. A company is developing a new model to predict the prices of specific items. The model performed well on the training dataset. When the company deployed the model to production, the model's performance decreased significantly. What should the company do to mitigate the problem?

- (a) Reduce the volume of data that is used in training
- (b) Add hyperparameters to the model
- (c) Increase the volume of data that is used in training
- (d) Increase the model training time

(c) - The given situation is overfitting. Thus, to mediate overfitting one way is to learn more about the model .

45. An ecommerce company wants to build a solution to determine customer sentiments based on written customer reviews of products. Which AWS services meet these requirements? (Choose two)

- (a) Amazon Lex
- (b) Amazon Comprehend
- (c) Amazon Polly
- (d) Amazon Bedrock
- (e) Amazon Rekognition

(b & d) - The given situation requires NLP and through PoE, we see that the only choices are b and d.

46. A company wants to use LLMs with Amazon Bedrock to develop chat interface for the company's product manuals. The manuals are stored as PDF files. Which solution meets these requirements MOST cost effectively?
- (a) Use prompt engineering to add one PDF file as context to the user prompt when the prompt is submitted to Amazon Bedrock.
 - (b) Use prompt engineering to add all the PDF file as context to the user prompt when the prompt is submitted to Amazon Bedrock
 - (c) Use all the PDF documents to fine-tune a model with Amazon Bedrock. Use the fine tune model to process user prompts
 - (d) Upload PDF documents to an Amazon Bedrock knowledge base. Use the knowledge base to provide context when users submit prompts to Amazon Bedrocks
- (d) - Thorough PoE, we see that (d) fits under the key situation "cost effectively" over the other options.**
47. A social media company wants to use LLM for content moderation. The company wants to evaluate the LLM outputs for bias and potential discrimination against specific groups or individuals. Which data source should the company use to evaluate the LLM outputs with the least administrative effort?
- (a) User Generated Content
 - (b) Moderation Logs
 - (c) Content Moderation Guidelines
 - (d) Benchmark Datasets
- (d) - Through PoE, we see that (d) provides the lowest effort option.**
48. A company wants to use a pre-trained gen AI model to generate content for its marketing campaigns. The company needs to ensure that the generated content aligns with the company's brand voice and messaging requirements. Which solution meets these requirements?
- (a) Optimize the model's architecture and hyperparameters to improve the model's overall performance
 - (b) Increase the model's complexity by adding more layers to the model's architecture
 - (c) Create effective prompts tht provide clear instructions and context to guide model's generation
 - (d) Select a large, diverse dataset to pre-train a new generative model
- (c) - Through PoE, we see that (c) meets the given requirements.**
49. A loan company is building a gen-AI-based solution to offer a new applicants discounts based on specific business criteria. The company wants to build and use an AI model responsibility to minimize bias that could negatively affect some customers. Which actions should the company take to meet these requirements? (Choose two.)
- (a) Detect imbalances or disparities in the data
 - (b) Ensure that the model runs frequently
 - (c) Evaluate the model's behavior so that the company can provide transparency to stakeholders
 - (d) Use Recall-Oriented Understudy for Gisting Evaluation (ROUGE) technique to ensure that the model is accurate
 - (e) Ensure the model's inference time is within the accepted limits.
- (a) & (c) - Through PoE, we see the two meet the given.**

50. A company is using Amazon Bedrock base model to summarize documents for an internal use case. The company trained a custom model to improve teh summarization quality. Which action must the company take use the custom model through Amazon Bedrock?
- (a) Purchase Provisioned Throughput for the custom model
 - (b) Deploy the custom model in an Amazon SageMaker endpoint for real-time inference
 - (c) Register the model with the Amazon SageMaker Model Registry
 - (d) Grant access to the custom model in Amazon Bedrock
- (b) - Bedrock cannot host custom models directly and from PoE it is (b).**
51. A company needs to choose a model from Amazon Bedrock to use internally. The company must identify a model that generates in a style that the company's employees prefer. What should the company do to meet these requirements?
- (a) Evaluate the models by using built-in prompt datasets
 - (b) Evaluate the models by using a human workforce and custom prompt datasets
 - (c) Use public model leaderboards to identify the model
 - (d) Use the model InvocationLatency runtime metrics in Amazon CloudWatch when trying models
- (b) - Since styling is the key factor, from the choices we see that (b) is the best choice.**
52. A student at a university if copying content from gen AI to write essays. Which challenge of responsible gen AI does this scenario represent?
- (a) Toxicity
 - (b) Hallucinations
 - (c) Plagiarism
 - (d) Privacy
- (c) - By definition, plagiarism matches given scenario.**
53. A company needs to build its own LLM based on only the company's private data. The company is concerned about the environmental effect of the training process. Which Amazon EC2 Instance Type has the LEAST environmental effect when training LLMs?
- (a) C series
 - (b) G series
 - (c) P series
 - (d) Trn Series
- (d) - Amazon EC2 Trn series (Trn1 instances) are purpose-built for training machine learning models and are designed to deliver high performance while optimizing energy efficiency. They use AWS Trainium chips, which are specifically engineered for ML training workloads, providing excellent performance per watt and reducing the environmental impact of large-scale training processes.**
54. A company wants to build an interactive application for children that generates new stories based on classic stories. The company wants to use Amazon Bedrock and needs to ensure that the results and topics are appropriate for children. Which AWS service or feature will meet these requirements?
- (a) Amazon Rekognition
 - (b) Amazon Bedrock Playgrounds
 - (c) Guardrails for Amazon Bedrock
 - (d) Agents for Amazon Bedrock
- (c) - GuardRail can filter undesirable and harmful content.**

55. A company is building an application that needs to generate synthetic data that is based on existing data. Which type of model can the company use to meet this requirement?
- (a) Generative Adversarial Network (GAN)
 - (b) XGBoost
 - (c) Residual Neural Network
 - (d) WaveNet
- (a) - GAN - models used to generate synthetic data such as images, videos or sounds that resemble the training data. Helpful for data augmentation.**
56. A digital devices company wants to predict customer demand for memory hardware. The company does not have coding experience or knowledge of ML algorithms and needs to develop a data-driven predictive model. The company needs to perform analysis on internal data and external data. Which solution will meet these requirements?
- (a) Store the data in S3. Create ML models and demand forecast predictions by using SageMaker built-in algorithms that use the data from S3
 - (b) Import the data into Amazon SageMaker Data Wrangler. Create ML models and demand forecast predictions by using SageMaker built-in algorithms
 - (c) Import the data into SageMaker Data Wrangler. Build ML models and demand forecast predictions by using Amazon Personalize Trending - Now Recipe
 - (d) Import the data into SageMaker Canvas. Build ML models and demand forecast predictions by selecting the values in the data from SageMaker Canvas
- (d) - Since the company has no coding experience, SageMaker Canvas is the appropriate choice as it also has access to ready-to-use models too.**
57. A company has installed a security camera. The company uses ML model to evaluate the security camera footage for potential thefts. The company has discovered that the model disproportionately flags people who are members of a specific ethnic group. Which type of bias is affecting the model output?
- (a) Measurement Bias
 - (b) Sampling Bias
 - (c) Observer Bias
 - (d) Confirmation Bias
- (b) - Since this bias does not accurately represent an entire group, with PoE it is (b).**
58. A company is building customer service chatbot. The company wants the chatbot to improve its responses by learning from past interactions and online resources. Which AI learning strategy provides this self-improvement capability?
- (a) Supervised learning with manually curated dataset of good responses and bad responses
 - (b) Reinforcement learning with rewards for positive customer feedback.
 - (c) Unsupervised learning to find clusters of similar customer inquiries
 - (d) Supervised learning with a continuously updated FAQ database
- (b) - Suitable for the given scenario as the chatbot can improve over time.**
59. An AI practitioner has built a deep learning model to classify the types of materials in images. The AI practitioner now wants to measure the model performance. Which metric will help the AI practitioner evaluate the performance of the model?
- (a) Confusion Matrix
 - (b) Correlation Matrix
 - (c) R2 Score
 - (d) Mean Square Error (MSE)
- (a) - Suitable as we are measuring the model's performance of a model that does classification.**

60. A company has built a chatbot that can respond to natural language questions with image. The company wants to ensure that the chatbot does not return inappropriate or unwanted images. Which solution will meet these requirements?
- (a) Implement moderation APIs
 - (b) Retrain the model with a general public dataset
 - (c) Perform model validation
 - (d) Automate user feedback integration
- (a) - Suitable as the API can filter out the image before they are sent out to the user.**
61. An AI practitioner is using Amazon Bedrock base model to summarize session chats from the customer service department. The AI practitioner wants to store innovation logs to monitor model input and output data. Which strategy should the AI practitioner use?
- (a) Configure AWS CloudTrail as the logs destination for the model
 - (b) Enable invocation logging in Amazon Bedrock
 - (c) Configure AWS Audit Manager as the logs destination for the model
 - (d) Configure model invocation logging in Amazon Event Bridge.
- (b) - Suitable as logging comes from Bedrock based on the given scenario.**
62. A company is building a ML model to analyze archived data. The company must perform inference on large datasets that are multiple GBs in size. The company does not need access to the model predictions immediately. Which SageMaker inference option will meet these requirements? monitor model input and output data. Which strategy should the AI practitioner use?
- (a) Batch Transform
 - (b) Real-Time Inference
 - (c) Serverless Inference
 - (d) Asynchronous Inference
- (a) - Suitable as the access is not needed immediately and there are large datasets to perform inference on.**
63. Which term describes the numerical representations of real world objects and concepts that AI and NLP models use to improve understanding of textual information?
- (a) Embeddings
 - (b) Tokens
 - (c) Models
 - (d) Binaries
- (a) - Suitable as the definition of embeddings matches the given summary.**
64. A research company implemented a chatbot by using FM from Bedrock. The chatbot searches for answers to questions from large database of research papers. After multiple prompt engineering attempts, the company notices that the FM is performing poorly because of the complex scientific terms in the research papers. How can the company improve the performance of the chatbot?
- (a) Use few shot prompting to define how the FM can answer the question
 - (b) Use domain adaptation fine tuning to adapt the FM to complex scientific terms
 - (c) Change the FM inference parameters
 - (d) Clean the research paper data to remove complex scientific terms
- (b) - Suitable as fine tuning to the specific domain helps with responding to complex questions.**

65. A company wants to use LLM on Bedrock for sentiment analysis. The company needs the LLM to produce consistent responses to the same input prompt. Which adjustment to an inference parameter should the company make to meet these requirements?
- (a) Decrease the temperature value
 - (b) Increase the temperature value
 - (c) Decrease the length of output tokens
 - (d) Increase the maximum generation length
- (a) - More consistent → predictable outcome so we should decrease the temperature.**
66. A company wants to develop a LLM application by using Bedrock and customer data that is uploaded to S3. The company's security policy states that each team can access data for only the team's own customers. Which solution will meet these requirements?
- (a) Create a Bedrock custom service role for each team that has access to only the team's custom data
 - (b) Create a custom service role that has S3 access. Ask team to specify the customer name on each Bedrock requests.
 - (c) Redact personal data in S3. Update the S3 Bucket Policy to allow team access to customer data.
 - (d) Create on Bedrock role that has full S3 access. Create IAM roles for each team that have access to only each team's customer folders
- (a) - Since the scenario deals with a company security policy, through PoE we see that (a) is suitable.**
67. A medical company deployed a disease detection model on Bedrock. To comply with privacy policies, the company wants to prevent the model from including personal patient information in its responses. The company also wants to receive notifications when policy violation occurs. Which solution meets these requirements?
- (a) Use Macie to scan the model's output for sensitive data and set up alerts for potential violations
 - (b) Configure CloudTrail to monitor the model's responses and create alerts for any detected personal information
 - (c) Use Guardrails for Bedrock to filter content. Set up CloudWatch alarms for notification of policy violations
 - (d) Implement SageMaker Model Monitor to detect data drift and receive alerts when model quality degrades.
- (c) - Based on the given scenario GuardRail is appropriate along with CloudWatch.**
68. A company manually reviews all submitted resumes in PDF format. As the company grows, the company expects the volumes of resumes to exceed the company's review capacity. The company needs an automated system to convert the PDF resumes into plain text format for additional processing. Which AWS service meets this requirement?
- (a) Amazon Textract
 - (b) Amazon Personalize
 - (c) Amazon Lex
 - (d) Amazon Transcribe
- (a) - The service automatically extracts text, handwriting, and data from a scanned docu using AI & ML.**

69. An educational provider is building a Q & A app that uses Gen AI model to explain complex concepts. The education provider want to automatically change the style of the model response depending on who is asking the question. The education provider will give the model the age range of the user who has asked the question. Which solution will meet these requirements with the LEAST implementation effort?
- (a) Fine tune the model by using additional training data that is representative of the various age ranges that the app will support.
 - (b) Add role description to the prompt context that instructs the model of the age range that the response should target
 - (c) Use chain of thought reasoning to deduce the correct style and complexity for a response suitable for that user
 - (d) Summarize the response text depending on the age the user so that younger user receives shorter responses
- (b) - Based on the given scenario, (b) will meet the goal with the least implementation effort .**
70. Which strategy evaluates the accuracy of a FM that is used in image classification tasks?
- (a) Calculate the total cost of resource used by the model
 - (b) Measure the model's accuracy against a predefined benchmark datasets
 - (c) Count the number of layers in the neural network
 - (d) Assess the color accuracy of images processed by the model
- (b) - Recall that accuracy is the degree to which the result of a measurement, calculation, or specification conforms to the correct value or a standard.**
71. An accounting firm wants to implement LLM to automate document processing. The firm must proceed responsibly to avoid potential harms. What should the firm do when developing and deploying the LLM? (Choose two.)
- (a) Include fairness metrics for model evaluation
 - (b) Adjust the temperature parameter of the model
 - (c) Modify the training data to mitigate bias
 - (d) Avoid overfitting on the training data
 - (e) Apply prompt engineering techniques
- (a) & (c) - For the given scenario the two choices are correct.**
72. A company is building a ML model. The company collected new data and analyzed the data by creating a correlation matrix, calculating statistics, and visualizing the data. Which stage of the ML pipeline is the company currently in?
- (a) Data Pre-Processing
 - (b) Feature Engineering
 - (c) Exploratory data analysis
 - (d) Hyperparameter Tuning
- (c) - EDA is associated with the activities listed in the question.**
73. A company has documents that are missing some words because of database errors.
- (a) Topic Modeling
 - (b) Clustering Modeling
 - (c) Prescriptive ML Models
 - (d) BERT based models
- (d) - BERT is appropriate for the given scenario as it is suitable for tasks to fill in missing words based on a given context.**

74. Which prompting attack directly exposes the configured behavior of a LLM?
- (a) Prompted Persona Switch
 - (b) Exploiting Friendliness and Trust
 - (c) Ignoring The Prompt Template
 - (d) Extracting The Prompt Template
- (d) - Since (a) is role changes and (b) is social trust, through PoE (d) fits the given scenario.**
75. A company wants to use Bedrock. The company needs to review security aspects the company is responsible for when using Bedrock. Which security aspect will the company be responsible for?
- (a) Patching and updating the versions of Bedrock
 - (b) Protecting the infrastructure that hosts Bedrock
 - (c) Securing the company's data in transit and rest
 - (d) Provisioning Bedrock within the company network
- (c) - Since Bedrock is fully managed, through PoE (c) fits the question.**
76. A social media company wants to use a LLM to summarize message. The company has chosen a few LLMs that are available on SageMaker JumpStart. The company wants to compare the generated output toxicity of these models. Which strategy gives the company the ability to evaluate the LLM with the LEAST operational overhead?
- (a) Crowd Sourced Evaluation
 - (b) Automatic Model Evaluation
 - (c) Model Evaluation with human workers
 - (d) Reinforcement Learning From Human Feedback (RLHF)
- (b) - Since the keyword is LEAST, from PoE (b) fits the scenario best.**
77. A company is testing the security of a FM. During testing, the company wants to get around the safety features and make harmful content. Which security technique is this an example of?
- (a) Fuzzing training data to find vulnerabilities
 - (b) Denial of Service (DoS)
 - (c) Penetration testing with authorization
 - (d) Jailbreak
- (d) - Since the definition of Jailbreak fits the given scenario.**
78. A company needs to use SageMaker for model training and inference. The company must comply with regulatory requirement to run SageMaker jobs in an isolated environment without internet access. Which solution will meet these requirements?
- (a) Run SageMaker training and inference by using SageMaker Experiments
 - (b) Run SageMaker training and inference by using network isolation
 - (c) Encrypt the data at rest by using encryption for SageMaker geospatial capabilities
 - (d) Associate appropriate AWS IAM role with SageMaker jobs
- (b) - Based on the given scenario, (b) fits the matches the conditions.**

79. A ML research team develops custom ML models. The model artifacts are shared with other teams integration into products and services. The ML team retains the model training code and data. The ML team wants to build a mechanism that the ML team can use to audit models. Which solution should the ML team use when publishing the custom ML models.
- (a) Create documents with the relevant information. Store the documents in S3.
 - (b) Use AWS AI Service Cards for transparency and understanding models
 - (c) Create SageMaker Model Cards with intended uses and training and inference details
 - (d) Create model training scripts. Commit the model training scripts to a Git Repository
- (c) - With PoE and SageMaker Model Card idea, we can see that this fits the given scenario the best .**
80. A software company builds tools for customers. The company wants to use AI to increase software development productivity. Which solution will meet these requirements?
- (a) Use a binary classification model to generate code reviews
 - (b) Install code recommendation software in the company's developer tools
 - (c) Install code forecasting tool to predict potential code issues
 - (d) Use a NLP tool to generate code
- (b) - With PoE, we see that (b) fits the scenario best.**
81. A retail store wants to predict the demand for a specific product for the next few weeks by using SageMaker DeepAR forecasting algorithm. Which type of data will meet this requirement?
- (a) Text Data
 - (b) Image Data
 - (c) Time Series Data
 - (d) Binary Data
- (c) - Contains the necessary data points for the given scenario making it the most suitable for DeepAR.**
82. A large retail bank wants to develop a ML system to help the risk management team decide on loan allocations for different demographics. What must the bank do to develop an unbiased ML model?
- (a) Reduce the size of training datasets
 - (b) Ensure that the ML model predictions are consistent with historical results
 - (c) Create a different ML model for each demographic group
 - (d) Measure class imbalance on the training dataset. Adapt the training process accordingly.
- (d) - Since the scenario is avoiding bias, from PoE we can single down to (d) as the appropriate choice.**
83. Which prompting technique can protect against prompt injections attack?
- (a) Adversarial Prompting
 - (b) Zero Shot Prompting
 - (c) Least To Most Prompting
 - (d) Chain Of Thought Prompting
- (a) - Since Adversarial Prompting is suitable for prompt injection attacks**

84. A company has fine-tuned a LLM to answer questions for a help desk. The company wants to determine if the fine-tuning has enhanced the model's accuracy. Which metric should the company use for the evaluation?
- (a) Precision
 - (b) Time To First Token
 - (c) F1 Score
 - (d) Word Error Rate
- (c) - The score used for average of precision and recall.**
85. A company is using Retrieval Augmented Generation (RAG) with Bedrock and Stable Diffusion to generate image based on text descriptions. The results are often random and lack specific details. The company wants to increase the specificity of the generated images.
- (a) Increase the number of generation steps
 - (b) Use the MASK IMAGE BLACK mask source option
 - (c) Increase the classifier free guidance (CFG) scale
 - (d) Increase the prompt strength
- (c) -Through PoE, c is the best choice.**
86. A company wants to implement a LLM based chatbot to provide customer service agents with real time contextual responses to customer inquiries. The company will use the company's policies as the knowledge base. Which solution will meet these requirements MOST cost effectively?
- (a) Retrain the LLM on the company policy data
 - (b) Fine-tune the LLM on the company policy data
 - (c) Implement RAG for in-context responses
 - (d) Use pre-training and data augmentation on the company policy data
- (c) -Since the scenario requires MOST cost effective option, (c) matches the scenario.**
87. A company wants to create a new solution by using AWS Glue. The company has minimal programming experience with AWS Glue. Which AWS service can help the company use AWS Glue?
- (a) Amazon Q Developer
 - (b) AWS Config
 - (c) AWS Personalize
 - (d) Amazon Comprehend
- (a) -Since company wants a better understanding of AWS Glue, (a) will be suitable for the given scenario.**
88. A company is developing a mobile ML app that use a phone's camera to diagnose and treat insect bites. The company wants to train an image classification model by using a diverse dataset of insect bite photos from different genders, ethnicities, and geographic locations around the world. Which principle of responsible AI does the company demonstrate in this scenario?
- (a) Fairness
 - (b) Explainability
 - (c) Governance
 - (d) Transparency
- (a) - Fairness matches closely to the given scenario.**

89. A company is developing a ML model to make loan approvals. The company must implement a solution to detect bias in the model. The company must also be able to explain the model's prediction. Which solution will meet these requirements?
- (a) Amazon SageMaker Clarify
 - (b) Amazon SageMaker Data Wrangler
 - (c) Amazon SageMaker Model Cards
 - (d) AWS AI Service Cards
- (a) - Since the major keyword here is "explain", SageMaker Clarify fits the scenario as it a set of tool to help explain ML models make predictions.**
90. A company has developed a generative text summarization model by using Bedrock. The company will use Bedrock automatic model evaluation capabilities. Which metric should the company use to evaluate the accuracy of the model?
- (a) Area Under the ROC Curve (AUC) score
 - (b) F1 Score
 - (c) BERTScore
 - (d) Real World Knowledge Score
- (c) - Since we are evaluating the performance BERTScore fits the scenario the best.**
91. An AI Practitioner wants to predict the classification of flowers based on petal length, petal width, sepal length, and sepal width. Which algorithm meets these requirements?
- (a) KNN
 - (b) K Mean
 - (c) Autoregressive Integrated Moving Average
 - (d) Linear Regression
- (a) - Since the key term is classification based on features then (a) matches the scenario the best.**
92. A company is using custom models in Bedrock for a gen AI application. The company wants to use a company managed encryption key to encrypt the model artifacts that the model customization jobs create. Which AWS service meets these requirements?
- (a) AWS Key Management Service
 - (b) Amazon Inspector
 - (c) Amazon Macie
 - (d) AWS Secret Manager
- (a) - Since the key concept is encryption key, from PoE we see that (a) fits the scenario best.**
93. A company wants to use LLMs to produce code from natural language code comments. Which LLM feature meets these requirements?
- (a) Text Summarization
 - (b) Text Generation
 - (c) Text Completion
 - (d) Text Classification
- (b) - Since the key idea is to produce code, from PoE (b) fits the scenario the best.**

94. A company is introducing a mobile app that helps users learn foreign language. The app makes text more coherent by calling LLM. The company collected diverse dataset of text and supplemented the dataset with examples of more readable versions. The company wants the LLM output to resemble the provided examples. Which metric should the company use to assess whether the LLM meets these requirements?
- (a) Value of the loss function
 - (b) Semantic Robustness
 - (c) Recall Oriented Understudy For Gisting Evaluation (ROUGE) Score
 - (d) Latency of the text generation
- (c) - Since we want to resemble the examples (c) would fit the scenario the best.**
95. A company notices that its FM generate images that are unrelated to the prompts. The company wants to modify the prompt techniques to decrease unrelated images. Which solution meets these requirements?
- (a) Use Zero Shot Prompts
 - (b) Use Negative Prompts
 - (c) Use Positive Prompts
 - (d) Use Ambiguous Prompts
- (b) - Since we want to negate the outcome of unrelated images, (b) will fit the scenario the best.**
96. A company wants to use LLM to generate concise, feature-specific descriptions for the company's products. Which prompt engineering technique meets these requirements?
- (a) Create one prompt that covers all products. Edit the responses more specific, concise, and tailored to each product
 - (b) Create prompts for each product category that highlight the key features. Include the desired output format and length for each product
 - (c) Include diverse range of product features in each prompt to generate creative and unique descriptions
 - (d) Provide detailed, product-specific prompts to ensure precise and customized descriptions
- (b) - Since the scenario requires specific format from PoE we see that (b) fits given scenario closely.**
97. A company is developing a ML model to predict customer churn. The model performs well on training dataset but does not accurately predict churn for new data. Which solution will resolve this issue?
- (a) Decrease the regularization parameter to increase model complexity
 - (b) Increase the regularization parameter to decrease model complexity
 - (c) Add More Features to the Input Data
 - (d) Train The Model For More Epochs
- (b) - Since overfitting is occurring in the given scenario, (b) resembles the close steps to take.**

98. A company is implementing intelligent agents to provide conversational search experiences for its customers. The company needs a database service that will support storage and queries of embedding gen AI model as vectors in the database. Which AWS service will meet these requirements?
- (a) Amazon Athena
 - (b) Amazon Aurora PostgreSQL
 - (c) Amazon Redshift
 - (d) Amazon EMR
- (b) - Since the key requirement is storage and queries of embedding so (b) is the best choice for the given.**
99. A financial institution is building an AI solution to make loan approval decisions by using FM. For security and audit purposes, the company needs the AI solution's decisions to be explainable. Which factor relates to the explainability of the AI solution's decision?
- (a) Model Complexity
 - (b) Training Time
 - (c) Number of Hyperparameters
 - (d) Deployment Time
- (a) - Complex model are hard to explain due to their black box nature.**
100. A pharmaceutical company wants to analyze user review of new medications and provide a concise overview for each medication. Which solution meets these requirements?
- (a) Create a time-series forecasting model to analyze the medication review by using Personalize
 - (b) Create medication review summaries by using Bedrock LLMs
 - (c) Create a classification model that categorizes medications into different groups by using SageMaker
 - (d) Create medication review summaries by using Amazon Rekognition
- (b) - Since the keyword is "concise overview" from PoE we see that (b) fits the scenario.**
101. A company wants to build a lead prioritization application for its employees to contact potential customers. The application must give employees the ability to view and adjust the weights assigned to different variables in the model based on domain knowledge and expertise. Which ML model type meets these requirements?
- (a) Logistic Regression Model
 - (b) Deep Learning Model Built On Principal Components
 - (c) K-nearest neighbors (kNN) models
 - (d) Neural Network
- (a) - The key concept is "weights assigned to different variables," thus from PoE then (a) matches the scenario.**
102. Which strategy will determine if a FM effectively meets to business objectives?
- (a) Evaluate the model's performance on benchmark datasets
 - (b) Analyze the model's architecture and hyperparameter
 - (c) Assess the model's alignment with specific use cases
 - (d) Measure the computational resources required for model deployment
- (c)**