CEplus

C1000-059.VCEplus.premium.exam.62q

Number: C1000-059
Passing Score: 800
Time Limit: 120 min
File Version: 1.0



Website: https://vceplus.com - https://vceplus.co VCE to PDF Converter: https://vceplus.com/vce-to-pdf/ Facebook: https://www.facebook.com/VCE.For.All.VN/

Twitter: https://twitter.com/VCE_Plus

C1000-059

IBM AI Enterprise Workflow V1 Data Science Specialist





Exam A

QUESTION 1

A new test to diagnose a disease is evaluated on 1152 people, and 106 people have the disease, and 1046 people do not have the disease. The test results are summarized below:

	Test predicts disease	Test predicts no disease
Have the disease	73	33
Do not have the disease	81	965

In this sample, how many cases are false positives and false negatives?

A. 33 false positives and 81 false negatives

B. 81 false positives and 73 false negatives

C. 73 false positives and 81 false negatives

D. 81 false positives and 33 false negatives

Correct Answer: A Section: (none) **Explanation**

Explanation/Reference:

QUESTION 2 What is the goal of the backpropagation algorithm?

A. to randomize the trajectory of the neural network parameters during training

B. to smooth the gradient of the loss function in order to avoid getting trapped in small local minimas

CEplus C. to scale the gradient descent step in proportion to the gradient magnitude D. to compute the gradient of the loss function with respect to the neural network parameters Correct Answer: B

Section: (none) **Explanation**

Explanation/Reference:

Reference: https://www.sciencedirect.com/topics/computer-science/backpropagation

QUESTION 3

With the help of Al algorithms, which type of analytics can help organizations make decisions based on facts and probability-weighted projections?

A. prescriptive analytics

B. cognitive analytics

C. predictive analytics

D. descriptive analytics

Correct Answer: A Section: (none) **Explanation**

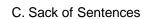
Explanation/Reference:

Reference: https://www.investopedia.com/terms/p/prescriptive-analytics.asp

What is the technique called for vectorizing text data which matches the words in different sentences to determine if the sentences are similar?

A. Cup of Vectors

B. Box of Lexicon



D. Bag of Words

Correct Answer: D Section: (none) Explanation



Reference: https://medium.com/@adriensieg/text-similarities-da019229c894

QUESTION 5 Which statement is true in the context of evaluating metrics for machine learning algorithms?

A. A random classifier has AUC (the area under ROC curve) of 0.5

B. Using only one evaluation metric is sufficient

C. The F-score is always equal to precision

D. Recall of 1 (100%) is always a good result

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 6 When should median value be used instead of mean value for imputing missing data?

A. for skewed data

B. for real numbers

C. for normally distributed data

D. for large data sets

Correct Answer: D Section: (none) Explanation



QUESTION 7

Given the following matrix multiplication:

$$\begin{bmatrix} -1 & 4 & -5 \\ -4 & -2 & 3 \\ 3 & 1 & 4 \end{bmatrix} \begin{bmatrix} 0 & -2 & -1 \\ -3 & -4 & 0 \\ -5 & 2 & -3 \end{bmatrix} = \begin{bmatrix} L & M & N \\ P & Q & R \\ S & T & U \end{bmatrix}$$

What is the value of P?

A. -9

B. 17

C. 12

D. –7

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: https://www.mathsisfun.com/algebra/matrix-multiplying.html







QUESTION 8

A neural network is composed of a first affine transformation (affine1) followed by a ReLU non-linearity, followed by a second affine transformation (affine2).

Which two explicit functions are implemented by this neural network? (Choose two.)

A. y = affine1(ReLU(affine2(x)))

B. y = max(affine1(x), affine2(x))C. y = affine2(ReLU(affine1(x)))

D. y = affine2(max(affine1(x), 0))

E. y = ReLU(affine1(x), affine2(x))

Correct Answer: CD Section: (none) Explanation

Explanation/Reference:

QUESTION 9 The formula for recall is given by (True Positives) / (True Positives + False Negatives).

What is the recall for this example?

predicted

	79	negative	positive	
actual	negative	3	2	
	positive	4	1	

A. 0.2

B. 0.25

C. 0.5 D. 0.33

Correct Answer: B

Section: (none) Explanation

Explanation/Reference:

Reference: https://machinelearningmastery.com/precision-recall-and-f-measure-for-imbalanced-classification/

QUESTION 10

After importing a Jupyter notebook and CSV data file into IBM Watson Studio in the IBM Public Cloud project, it is discovered that the notebook code can no longer access the CSV file.

What is the most likely reason for this problem?

- A. CSV files cannot be used as data sources in Watson Studio.
- B. The CSV file was converted to a binary blob and must be converted in the notebook code.
- C. The CSV file is stored in a Cloud Object Storage.
- D. The CSV file is stored in a Watson Machine Learning instance and is only accessible via REST API.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: https://github.com/IBM/watson-stock-market-predictor/blob/master/README.md

QUESTION 11 Determine the number of bigrams and trigrams in

the sentence.





"Data is the new oil".

A. 3 bigrams, 3 trigrams

B. 4 bigrams, 4 trigrams

C. 3 bigrams, 4 trigrams

D. 4 bigrams, 3 trigrams

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 12 Which is a preferred approach for simplifying the data transformation steps in machine learning model management and maintenance?

A. Implement data transformation, feature extraction, feature engineering, and imputation algorithms in one single pipeline.

- B. Do not apply any data transformation or feature extraction or feature engineering steps.
- C. Leverage only deep learning algorithms.
- D. Apply a limited number of data transformation steps from a pre-defined catalog of possible operations independent of the machine learning use case.

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 13 Which is a technique that automates the handling of categorical variables?



- A. binary encoding
- B. decoding
- C. autoencoding
- D. one-hot encoding

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Reference: https://hub.packtpub.com/how-to-handle-categorical-data-for-machine-learning-algorithms/

QUESTION 14 Which two statements are correct about deploying machine learning models? (Choose two.)

- A. It allows integration within business applications.
- B. It makes it possible to create reports for management dynamically using specific parameters from executives.
- C. It is critical for achieving high accuracy in training.
- D. It is a necessary step in training and evaluating the performance of the models.
- E. It is only possible on the cloud because they require a large amount of compute resources.

Correct Answer: CD Section: (none) Explanation



QUESTION 15 Which of the following entity extraction techniques would be best for the extraction of telephone numbers from a text document?

A. complex pattern-based

B. regex

C. statistical

D. dictionary

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: https://www.researchgate.net/publication/318093829_Developing_an_innovative_entity_extraction_method_for_unstructured_data

QUESTION 16 What statement is true

about UTF-8?

A. It is encoding for Latin script.

B. It is rarely used today.

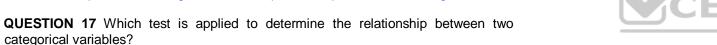
C. It is encoding for Unicode characters.

D. It is equal to ASCII.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: https://www.w3.org/International/questions/ga-what-is-encoding





B. chi squared test

C. z test

D. t-test

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Reference: https://www.pluralsight.com/guides/testing-for-relationships-between-categorical-variables-using-the-chi-square-test

QUESTION 18 With only limited labeled data available how might a neural network use case be realized?

A. by assigning random labels

B. by increasing the depth of the neural network

C. by creating random data

D. by using a customized pre-trained model

Correct Answer: D Section: (none) Explanation





QUESTION 19 What is the first step in creating a custom model in Watson Visual Recognition service?

- A. Test the newly trained model.
- B. Document the errors from the built in models.
- C. Obtain image files containing objects to be classified and organize them into classes.
- D. Use IBM SPSS to create new machine learning classifiers.

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

QUESTION 20 What is used to scale large positive values during data cleaning?

A. division by random numbers

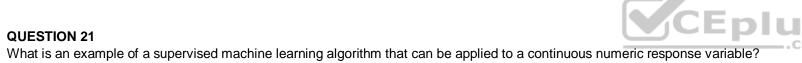
B. square

C. logarithm

D. subtract median

Correct Answer: A Section: (none) Explanation

Explanation/Reference:



A. linear regression

B. k-means

C. local outlier factor (LOF)

D. naive Bayes

Correct Answer: A Section: (none) Explanation

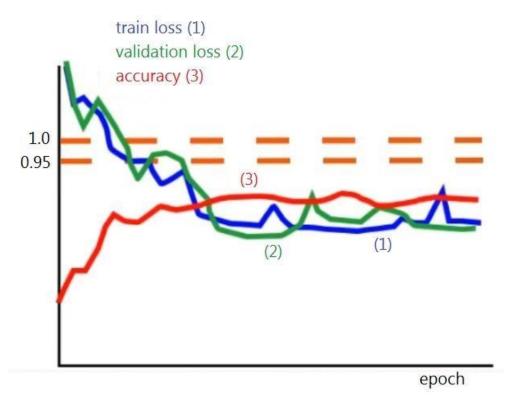
Explanation/Reference:

Reference: https://www.analyticsvidhya.com/blog/2017/09/common-machine-learning-algorithms/

QUESTION 22

A neural network is trained for a classification task. During training, you monitor the loss function for the train dataset and the validation dataset, along with the accuracy for the validation dataset. The goal is to get an accuracy of 95%.





From the graph, what modification would be appropriate to improve the performance of the model?

A. increase the depth of the neural network

B. insert a dropout layer in the neural network architecture

C. increase the proportion of the train dataset by moving examples from the validation dataset to the train dataset

D. restart the training with a higher learning rate

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

QUESTION 23 Which measure can be used to show business stakeholders the likelihood that a machine learning model will generate a true prediction?

A. accuracy

B. variance

C. mean

D. skewness

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 24 When communicating technical results to business stakeholders, what are three appropriate topics to include? (Choose three.)

A. methods that failed

B. newest developments in AI methods



C. benefits of cognitive over business analytics

D. realistic impact on the business measures

E. differences between cloud provider portfolios

F. alternative methods to address the business problem

Correct Answer: CDF Section: (none) Explanation

Explanation/Reference:

QUESTION 25 What are two key characteristics of cloud architecture that could benefit Al applications? (Choose two.)

A. constant attention needed for maintenance and support of the cloud platform

B. capable of managing and handling dynamic workloads with automatic recovery from failures

C. hybrid clouds enable the deployment of distributed large neural networks

D. support for common business oriented language (COBOL) applications

E. the hardware requirement can be scaled up as per the demand

Correct Answer: BE Section: (none) Explanation

Explanation/Reference:

QUESTION 26

What is a class of machine learning problems where the algorithm is given feedback in the form of positive or negative reward in a dynamic environment?

A. reinforcement learning

B. feedback-based optimization

C. dynamic programming

D. reward learning

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Reference: https://www.kdnuggets.com/2018/03/5-things-reinforcement-learning.html

QUESTION 27 In machine vision, the algorithm for detecting objects or features in an image based on a target pattern

is known as?

A. OCR

B. Hough transformation

C. Fourier transform

D. normalized correlation

Correct Answer: D Section: (none) Explanation

QUESTION 28

Which situation would disqualify a machine learning system from being used for a particular use case?

- A. The use case requires a 100% likelihood of making a correct/true prediction.
- B. Training and testing data for the model contain outliers.
- C. Data for the machine learning model is available only as static CSV files.
- D. The neural network for the model requires significantly more computing power than a logistic regression model.

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

QUESTION 29 In which example would recall be preferred over precision?

A. recall is always preferred

B. identify suitable candidates for a job

C. detection of malignant tumors

D. book recommendation

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: https://developers.google.com/machine-learning/crash-course/classification/precision-and-recall

QUESTION 30 Which distance is applied for multivariate outlier detection?

- A. Minkowski distance
- B. Manhattan distance
- C. Mahalanobis distance
- D. Euclidean distance

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: https://core.ac.uk/download/pdf/233075917.pdf

QUESTION 31 What are three operators used by genetic programming? (Choose three.)

- A. reciprocation
- B. mutation
- C. duel
- D. selection
- E. shelteringF. crossover

Correct Answer: CDF Section: (none) Explanation





QUESTION 32 What is meant by part-of-speech tagging in the context of text analytics?

A. replaces words with synonyms, e.g. answer for reply

B. translates word by word

C. finds the root word

D. determines the category of a word, e.g nouns

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Reference: https://www.freecodecamp.org/news/an-introduction-to-part-of-speech-tagging-and-the-hidden-markov-model-953d45338f24/

QUESTION 33

Given two multidimensional arrays of the same data type, A and B which two Python NumPy statements give the matrix product of the two matrices? (Choose two.)

A. A @ B

B. A × B

C. A * B

D. np.matprod(A,B)

E. np.dot(A,B)

Correct Answer: CD Section: (none) Explanation

Explanation/Reference:



QUESTION 34 Which IBM Watson Machine Learning deployment method offers the ultimate flexibility in deploying a machine learning model?

A. Watson Machine Learning Python client

B. Watson Machine Learning FORTRAN client

C. Watson Studio Project

D. Watson Machine Learning REST API

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Reference: https://neptune.ai/blog/best-machine-learning-as-a-service-platforms-mlaas

QUESTION 35

What is a class of machine learning problems where the algorithm builds a mathematical model from a set of data that contains both the inputs and the desired outputs?

A. unsupervised learning

B. mentoring

C. reinforcement learning

D. supervised learning

Correct Answer: D Section: (none) Explanation



Explanation/Reference:

Reference: https://en.wikipedia.org/wiki/Machine_learning

QUESTION 36 Which fine-tuning technique does not optimize the hyperparameters of a machine learning model?

A. grid search

B. population based training

C. random search

D. hyperband

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Reference: https://www.datacamp.com/community/tutorials/parameter-optimization-machine-learning-models

QUESTION 37 What are two hyperparameters used when building a k-means model?

(Choose two.)

A. kernel

B. learning rate

C. number of iterations

D. number of clusters

E. number of neighbors

Correct Answer: CD Section: (none) Explanation

Explanation/Reference:

Reference: https://www.ritchieng.com/machine-learning-clustering-kmeans/

QUESTION 38 Which one is the most appropriate use case for artificial intelligence (AI)?

A. detecting objects in video streams

B. compressing large video files

C. aggregating sales revenue per state

D. creating a pivot table with monthly costs

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 39 Considering one ML application is deployed using Kubernetes, its output depends on the data which is constantly stored in the model, if needing to scale the system based on available CPUs, what feature should be enabled?

A. persistent storage

B. vertical pod autoscaling

C. horizontal pod autoscaling

D. node self-registration mode

Correct Answer: A





Section:	(none)		
Explanation			

Explanation/Reference:

QUESTION 40 What are the various components that make up a time series data?

A. trend, noise, covariance B. trend, noise, kurtosis

C. trend, seasonality, causation D. trend, seasonality, noise

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

QUESTION 41

DRAG DROP

What is the best step by step order for machine learning pipeline?

Select and Place:

Correct Answer:

Section: (none) Explanation



Explanation/Reference:

QUESTION 42 Select the three computing languages that IBM Cloud Object Storage SDK supports. (Choose three.)

A. Node.js

B. Java

C. PHP

D. Swift

E. Python F. C/C++

Correct Answer: ABE Section: (none) Explanation

Explanation/Reference:

Reference: https://cloud.ibm.com/docs/cloud-object-storage?topic=cloud-object-storage-gs-dev

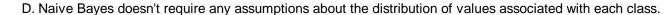
QUESTION 43 Which statement is true for

naive Bayes?

A. Naive Bayes can be used for regression.

B. Let p(C1 | x) and p(C2 | x) be the conditional probabilities that x belongs to class C1 and C2 respectively, in a binary model, log p (C1 | x) – log p(C2 | x) > 0 results in predicting that x belongs to C2.

C. Naive Bayes is a conditional probability model.



Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: http://users.sussex.ac.uk/~christ/crs/ml/lec02b.html

QUESTION 44 What are three elements that are typically part of a machine learning pipeline in scikit-learn or pyspark?

(Choose three.)

A. model building

B. data preprocessing

C. model prediction

D. business understanding

E. use case selection

F. data exploration

Correct Answer: BCF Section: (none) Explanation

Explanation/Reference:

Reference: https://www.analyticsvidhya.com/blog/2019/11/build-machine-learning-pipelines-pyspark/

QUESTION 45 The least squares optimization technique (The Method of Least Squares) is used in which algorithm?

A. Support Vector Machines

B. Naive Bayes classification

C. Logistic regression

D. Linear regression

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Reference: https://arxiv.org/ftp/arxiv/papers/1804/1804.05665.pdf

QUESTION 46 What is meant by the curse of dimensionality?

- A. The number of available algorithms for a given task is high.
- B. The number of available data sources for a given task is high.
- C. The data sparsity becomes more severe as the number of features is increased.
- D. The data sparsity becomes more severe as the number of samples is increased.

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 47

A classification task has examples that are labeled as belonging to one of two classes:







- 90% of the examples belong to class-1
- 10% belong to class-2

Which two techniques are appropriate to deal with the class imbalance? (Choose two.)

- A. apply dimensionality reduction to the features before training
- B. impose an additional cost on the model for making classification mistakes on the minority class during training
- C. lower the detection threshold of the minority class after training
- D. oversample the minority class and/or undersample the majority class
- E. after training, divide the model accuracy of each class by the proportion that they represent in the dataset

Correct Answer: BE Section: (none) Explanation

Explanation/Reference:

QUESTION 48 What are two methods used to detect outliers in structured data? (Choose two.)

A. multi-label classification

B. isolation forest

C. gradient descent

D. one class Support Vector Machine (SVM)

E. Word2Vec

Correct Answer: BD Section: (none) Explanation



Explanation/Reference:

Reference: https://www.researchgate.net/post/What-is-the-best-outliers-detection-algorithm-to-used-for-big-data

QUESTION 49 What is the name of the design thinking work product that contains a summary description of a particular person or role?

A. persona

B. snapshot

C. My Sticky Note

D. user summary report

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Reference: https://www.interaction-design.org/literature/topics/design-thinking

QUESTION 50 What is the main difference between traditional programming and machine learning?

- A. Machine learning models take less time to train.
- B. Machine learning takes full advantage of SDKs and APIs.
- C. Machine learning is optimized to run on parallel computing and cloud computing.
- D. Machine learning does not require explicit coding of decision logic.

Correct Answer: D



Section:	(none)
Explanat	ion

Explanation/Reference:

QUESTION 51

Which two properties hold true for standardized variables (also known as z-score normalization)? (Choose two.)

A. standard deviation = 0.5

B. expected value = 0

C. expected value = 0.5

D. expected value = 1

E. standard deviation = 1

Correct Answer: CE Section: (none) Explanation

Explanation/Reference:

QUESTION 52 If the distribution of the height of American men is approximately normal, with a mean of 69 inches and a standard deviation of 2.5 inches, then roughly 68 percent of American men have heights between _____ and

A. 64 inches and 74 inches

B. 66.5 inches and 69 inches

C. 71.5 inches and 76.5 inches

D. 66.5 inches and 71.5 inches

Correct Answer: B Section: (none) Explanation



Explanation/Reference:

QUESTION 53

In a hyperparameter search, whether a single model is trained or a lot of models are trained in parallel is largely determined by?

- A. The number of hyperparameters you have to tune.
- B. The presence of local minima in your neural network.
- C. The amount of computational power you can access.
- D. Whether you use batch or mini-batch optimization.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: <a href="https://github.com/Kulbear/deep-learning-coursera/blob/master/Improving%20Deep%20Neural%20Networks%20Hyperparameter%20tuning%2C%20Regularization%20and%20Optimization/Week%203%20Quiz%20-%20Hyperparameter%20tuning%2C%20Batch%20Normalization%2C%20Programming%20Frameworks.md

QUESTION 54 A data analyst creates a term-document matrix for the following sentence:

I saw a cat, a dog and another cat.

Assuming they used a binary vectorizer, what is the resulting weight for the word cat?



A. 0 B. 1

C. 3

D. 2

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 55

A data scientist is exploring transaction data from a chain of stores with several locations. The data includes store number, date of sale, and purchase amount.

If the data scientist wants to compare total monthly sales between stores, which two options would be good ways to aggregate the data? (Choose two.)

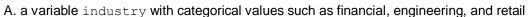
A. Find the sum of the transaction prices

- B. Select the largest transaction amount by month and store
- C. Write a GROUP BY query
- D. Plot a time series plot of transaction amounts
- E. Generate a pivot table

Correct Answer: BD Section: (none) Explanation

Explanation/Reference:

QUESTION 56 Which is an example of a nominal scale data?



B. a variable mood with a scale of values unhappy, ok, and happy

C. a variable bank account balance whose possible values are \$5, \$10, and \$15

D. a variable temperature with a scale of values low, medium, and high

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 57 What is the primary role of a data steward?

- A. they are a "blue sky thinker" who comes up with new approaches to use new data in innovative ways
- B. they have a strong understanding of the enterprise's database architecture
- C. they define data processes to meet compliance and regulatory obligations
- D. the one who collects, processes, and performs statistical analysis on data

Correct Answer: D Section: (none) Explanation





QUESTION 58 Which statement

defines p-value?

A. It is the probability of accepting a null hypothesis when the hypothesis is proven true.

B. It is the probability of rejecting a null hypothesis when the hypothesis is proven false.

C. It is the probability of accepting a null hypothesis when the hypothesis is proven false.

D. It is the probability of rejecting a null hypothesis when the hypothesis is proven true.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Reference: https://courses.lumenlearning.com/wmopen-concepts-statistics/chapter/introduction-to-hypothesis-testing-5-of-5/

QUESTION 59 Given the

following sentence:

The dog jumps over a fence.

What would a vectorized version after common English stopword removal look like?

A. ['dog', 'fence', 'run']

B. ['fence', 'jumps']

C. ['dog', 'fence', 'jumps']

D. ['a', 'dog', 'fence', 'jumps', 'over', 'the']

Correct Answer: C Section: (none) Explanation



Explanation/Reference:

Reference: https://towardsdatascience.com/text-pre-processing-stop-words-removal-using-different-libraries-f20bac19929a

QUESTION 60 Which algorithm is best suited if a client needs full explainability of the machine learning model?

A. decision tree

B. logistic regression

C. support vector machine (SVM)

D. recurrent neural network

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 61 What is the meaning of "deep" in deep learning?

- A. To go deep into the loss function landscape.
- B. The higher the number of machine learning algorithms that can be applied, the deeper is the learning.
- C. A kind of deeper understanding achieved by any approach taken.
- D. It indicates the many layers contributing to a model of the data.

Correct Answer: D



Section: (none) Explanation

Explanation/Reference:

Reference: https://en.wikipedia.org/wiki/Deep_learning

QUESTION 62 Which is the most important thing to ensure while collecting data?

A. samples collected are skewed with each other

B. samples collected are all strongly correlated with each other

C. samples collected adequately cover the space of all possible scenarios

D. samples collected focus only on the most common cases

Correct Answer: A Section: (none) Explanation



