QF632-2025-W9

Number of participants: 24

1. Which of the following is a type of clustering?

11 correct answers
out of 11 respondents

	Linear Regression	0%	0 votes
	Logistic Regression	0%	0 votes
	Decision Trees	0%	0 votes
✓	K-Means	100%	11 votes

2. In K-Means clustering, the 'K' stands for:

12 correct answers
out of 12 respondents

	The total number of features	0%	0 votes
✓	The number of clusters to be formed	100%	12 votes
	The maximum iterations allowed	0%	0 votes
	The learning rate	0%	0 votes

3. Hierarchical clustering uses which approach?

10 correct answers
out of 15 respondents

	Agglomerative (bottom-up approach)	13%	2 votes
	Divisive (top-down approach)	20%	3 votes
✓	Both a and b	67%	10 votes
	None of the above	0%	0 votes

4. The 'elbow' in the Elbow Method for determining the optimal number of clusters (K) in K-Means is:

9 correct answers
out of 15 respondents

✓	The point where adding another cluster does not significantly decrease the total intra-cluster variance.	60%	9 votes
	The point where adding another cluster significantly increases the total intra-cluster variance.	13%	2 votes
	The point where adding another cluster does not change the total intra-cluster variance.	7%	1 vote
	The point where adding another cluster significantly decreases the total intra-cluster variance.	20%	3 votes

5. The main purpose of dimensionality reduction techniques is:

15 correct answers
out of 17 respondents

	Reducing computational resources and speeding up the learning algorithm.	12%	2 votes
	Minimizing the curse of dimensionality.	0%	0 votes
	Visualizing high-dimensional data.	0%	0 votes
✓	All of the above.	88%	15 votes

6. Feature selection and feature extraction:

12 correct answers
out of 12 respondents

	Mean the same thing.	0%	0 votes
	Are completely different; there is no overlap.	0%	0 votes
✓	Both reduce dimensionality, but feature extraction creates new variables, whereas feature selection only keeps a subset of the original variables.	100%	12 votes
	Both create new variables, but feature extraction reduces dimensionality, whereas feature selection does not.	0%	0 votes