1. What does Multiple Linear Regression model?
A. Relationship between one input and one output
B. Relationship between multiple inputs and one output
C. Relationship between multiple outputs only
D. No relationship between variables
Answer: B
Explanation: Multiple linear regression একাধিক independent variable দিয়ে একটি dependent variable কে predict করে।

2. Which of the following is the equation of Multiple Linear Regression?
A. $y = b0 + b1x$
B. $y = mx + c$
C. $y = b0 + b1x1 + b2x2 + \ldots + bnxn$
D. $y = a + bx^2$
Answer: C
Explanation: Multiple linear regression এ একাধিক feature থাকে, তাই equation এ অনেকগুলো coefficient থাকে।

3. In Multiple Linear Regression, coefficients represent:
A. Random numbers
B. Hidden layers
C. Noise
D. Impact of each feature on the output
Answer: D
Explanation: প্রতিটি feature কিভাবে output কে প্রভাবিত করে তা coefficient বোঝায়।

4. Optimization algorithm used commonly in regression:
A. Gradient Descent
B. BFS
C. DFS
D. KNN
Answer: A
Explanation: Gradient descent parameter update করতে ব্যবহৃত হয় যাতে cost কমে।

5. Polynomial Regression is used when:
A. Data is linear
B. Data has non-linear patterns
C. No relationship exists
D. Only categorical data available
Answer: B
Explanation: Polynomial regression non-linear data curve fit করতে ব্যবহৃত হয়।

6. Which of these represents a polynomial regression equation?
A. $y = b0 + b1x$
B. $y = b0 + b1x + b2x^2$
C. $y = mx + c$
D. $y = a + \log(x)$
Answer: B
Explanation: Polynomial regression-এ squared term বা higher-order term থাকে।

7. Increasing polynomial degree may cause:
A. More accuracy
B. Underfitting
C. Overfitting
D. Better generalization
Answer: C
Explanation: Degree বেশি হলে model training data তে অতিরিক্ত fit হয়ে যায়।

8. Which library is used for linear regression in Python?
A. TensorFlow
B. Sklearn
C. NumPy only
D. Pandas
Answer: B
Explanation: Sklearn এর LinearRegression model widely ব্যবহার করা হয়ে থাকে।

9. What is the purpose of train-test split?
A. Remove data
B. Normalize data
C. Increase features
D. Evaluate model performance
Answer: D
Explanation: Train-test split model বাস্তবে কেমন perform করবে তা দেখতে ব্যবহৃত হয়।

10. What happens when the polynomial degree is too low?
A. Overfitting
B. Underfitting
C. Good generalization
D. High accuracy
Answer: B
Explanation: Low degree ডাটার non-linearity ধরতে পারে না, তাই underfit ঘটে।