**1. Regression Statistics:**

* **Multiple R (0.6229):** This is the correlation coefficient, indicating the strength and direction of the linear relationship between the independent variables (Temperature and Special Event) and the dependent variable (Sales). A value of 0.6229 suggests a moderate positive correlation.
* **R Square (0.3880):** This indicates that about 38.8% of the variability in sales is explained by the regression model. This is the goodness of fit for the model, showing how well the independent variables explain the dependent variable.
* **Adjusted R Square (0.3739):** Adjusted R² accounts for the number of predictors in the model and is slightly lower than R². It is useful when comparing models with different numbers of independent variables. Here, it shows that around 37.4% of the variability in sales is explained, adjusted for the two predictors.
* **Standard Error (7.0263):** This measures the average distance that the observed values fall from the regression line. A lower standard error indicates a better fit.
* **Observations (90):** The number of data points used in the regression analysis.

**2. ANOVA Table:**

* **df (Degrees of Freedom):**
  + **Regression (2):** This corresponds to the number of independent variables (Temperature and Special Event).
  + **Residual (87):** Degrees of freedom for the error, calculated as n−k−1n - k - 1n−k−1, where nnn is the number of observations and kkk is the number of predictors.
  + **Total (89):** The total degrees of freedom, which is n−1n - 1n−1.
* **SS (Sum of Squares):**
  + **Regression (2723.03):** This is the sum of squares explained by the model.
  + **Residual (4295.05):** This is the sum of squares unexplained by the model (the error).
  + **Total (7018.07):** Total sum of squares (the total variation in the data).
* **MS (Mean Square):**
  + **Regression (1361.51):** The mean square for regression is calculated as SSRegression/dfRegressionSS\_{Regression} / df\_{Regression}SSRegression​/dfRegression​, and it represents the average amount of variability explained by each predictor.
  + **Residual (49.37):** The mean square for the residual is the average unexplained variance.
* **F-statistic (27.5787):** This is the overall significance test for the regression model. It indicates whether the model as a whole is statistically significant. The higher the F-statistic, the more likely it is that at least one of the predictors is meaningfully related to the dependent variable.
* **Significance F (5.29E-10):** This is the p-value for the F-test. A very small value (almost 0) indicates that the overall regression model is statistically significant, meaning the independent variables collectively have a significant impact on sales.

**3. Coefficients Table:**

* **Intercept (31.068):** This is the expected sales value when both "Temperature (°F)" and "Special Event" are 0. So, when no event is happening and the temperature is 0°F (theoretically), sales would be $31.07.
* **Temperature Coefficient (0.2346):** For each 1°F increase in temperature, sales are expected to increase by $0.23, holding other variables constant. This coefficient is statistically significant because its **P-value (0.0043)** is less than 0.05.
* **Special Event Coefficient (18.533):** When there is a special event, sales are expected to increase by $18.53, holding temperature constant. This coefficient is highly significant, with a **P-value (3.44E-10)** being much less than 0.05.
* **Standard Errors:** These show the variability of the coefficient estimates. Smaller values indicate more precise estimates.
* **t Stat and P-values:** These indicate the significance of each individual predictor. Since both the **P-values for Temperature (0.0043)** and **Special Event (3.44E-10)** are less than 0.05, both variables are statistically significant in predicting sales.
* **Confidence Intervals (Lower and Upper 95%):** The 95% confidence intervals for the coefficients provide a range within which the true population parameter is likely to fall. For example, for the "Temperature" variable, we are 95% confident that the true coefficient lies between 0.0757 and 0.3935.

**Summary Interpretation:**

* The regression model is statistically significant overall (as indicated by the Significance F and F-statistic).
* Both independent variables, "Temperature" and "Special Event," significantly affect sales.
* "Temperature" has a positive, statistically significant effect on sales, with sales increasing by $0.23 for each 1°F increase.
* "Special Event" also has a strong positive effect, with sales increasing by $18.53 during special events.
* The model explains about 38.8% of the variability in sales, which indicates a moderate fit.