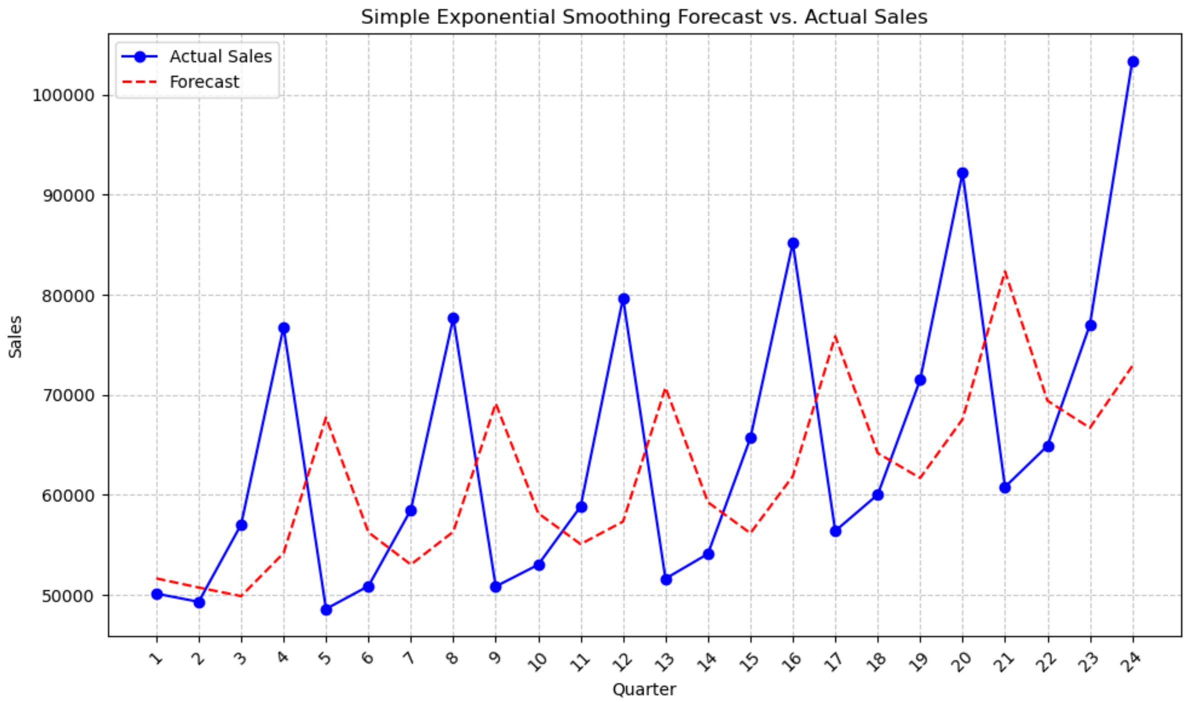
In [21]:
```python
import pandas as pd
import matplotlib.pyplot as plt
from statsmodels.tsa.holtwinters import ExponentialSmoothing
```

In [25]:
```python
SalesData = pd.read_csv('DepartmentStoreSales.csv')
quarters = SalesData['Quarter']
sales = SalesData['Sales']
```

In [26]:
```python
model = SimpleExpSmoothing(sales)
fit = model.fit(smoothing_level=0.6)
```

In [28]:
```python
forecast = fit.fittedvalues
```

In [29]:
```python
plt.figure(figsize=(10, 6))
plt.plot(quarters, sales, color='b', marker='o', label='Actual Sale
plt.plot(quarters, forecast, color='r', linestyle='--', label='Fore
plt.xlabel('Quarter')
plt.ylabel('Sales')
plt.title('Simple Exponential Smoothing Forecast vs. Actual Sales')
plt.grid(True, linestyle='--', alpha=0.7)
plt.legend(loc='upper left')
plt.xticks(quarters, quarters.tolist(), rotation=45)
plt.tight_layout()
plt.show()
```



In [30]:
```python
import pandas as pd
import matplotlib.pyplot as plt
from statsmodels.tsa.holtwinters import ExponentialSmoothing
```

In [31]:
```python
data = pd.read_csv('DepartmentStoreSales.csv')
```

In [32]:

```
data.set_index('Quarter', inplace=True)
```

In [33]:

```
model = ExponentialSmoothing(data['Sales'], trend='add', seasonal='
fit = model.fit()
```

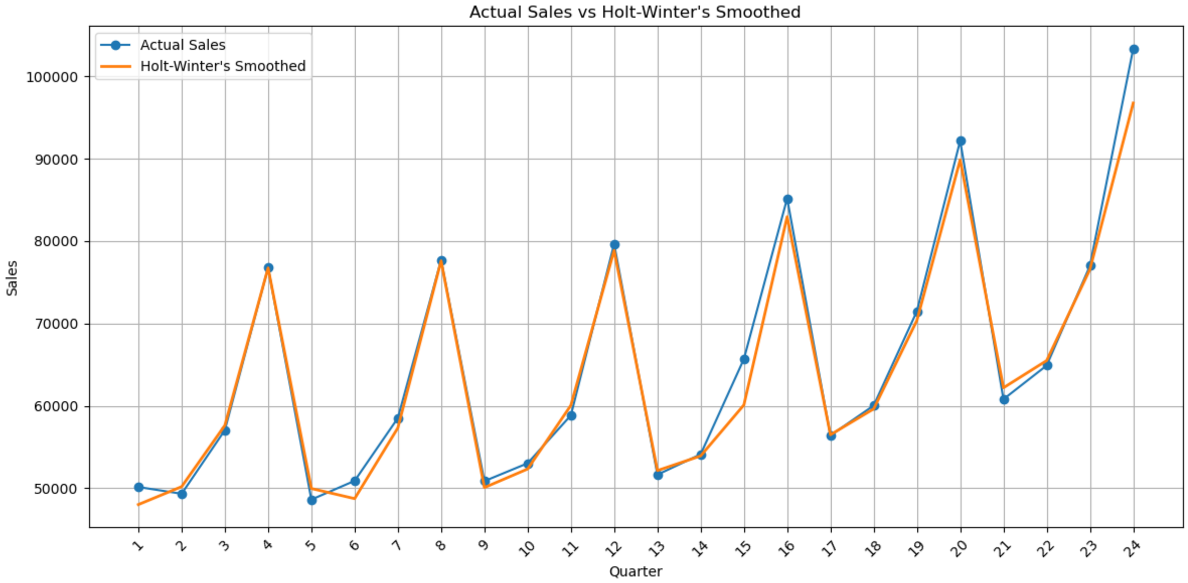
```
/Users/jeetpatel499/opt/anaconda3/lib/python3.9/site-packages/stat
smodels/tsa/base/tsa_model.py:471: ValueWarning: An unsupported in
dex was provided and will be ignored when e.g. forecasting.
  self._init_dates(dates, freq)
/Users/jeetpatel499/opt/anaconda3/lib/python3.9/site-packages/stat
smodels/tsa/holtwinters/model.py:915: ConvergenceWarning: Optimiza
tion failed to converge. Check mle_retvals.
  warnings.warn(
```

In [34]:

```
smoothed_values = fit.fittedvalues
```

In [35]:

```
plt.figure(figsize=(12, 6))
plt.plot(data.index, data['Sales'], label='Actual Sales', marker='o
plt.plot(data.index, smoothed_values, label='Holt-Winter\'s Smoothe
plt.xlabel('Quarter')
plt.ylabel('Sales')
plt.title('Actual Sales vs Holt-Winter\'s Smoothed')
plt.grid(True)
plt.legend(loc='best')
plt.xticks(data.index, data.index.tolist(), rotation=45)
plt.tight_layout()
plt.show()
```


Actual Sales vs Holt-Winter's Smoothed
Actual Sales
Holt-Winter's Smoothed
Sales
Quarter