In [1]:
```
import numpy as np
```

In [2]:
```
from sklearn.linear_model import LinearRegression
```

In [3]:
```
x=np.array([1,2,3,4,5,6,7,8])
```

In [4]:
```
y=np.array([7,14,15,18,19,21,26,23])
```

In [5]:
```
x
```

Out[5]:
```
array([1, 2, 3, 4, 5, 6, 7, 8])
```

In [6]:
```
x=np.array([1,2,3,4,5,6,7,8]).reshape((-1,1))
```

In [ ]:
```

```

In [7]:
```
print(x)
```

```
[[1]
 [2]
 [3]
 [4]
 [5]
 [6]
 [7]
 [8]]
```

In [8]:
```
print(y)
```

```
[ 7 14 15 18 19 21 26 23]
```

In [9]:
```
model=LinearRegression()
```

In [10]:
```
model.fit(x,y)
```

Out[10]:
```
LinearRegression()
```

In [11]:
```
model=LinearRegression().fit(x,y)
```

In [12]:
```
r_sq=model.score(x,y)
```

In [13]:
```
print('coefficient of determination:',r_sq)
```

```
coefficient of determination: 0.8867741072947811
```

In [16]:
```
print('intercept',model.intercept_)
```

```
intercept 7.642857142857142
```

In [17]:
```
print('slope',model.coef_)
```

```
slope [2.27380952]
```

In [18]:
```
new_model = LinearRegression().fit(x,y.reshape(-1,1))
```

In [19]:
```
print('intercept',new_model.intercept_)
```

```
intercept [7.64285714]
```

In [20]:
```
print('slope',new_model.coef_)
```

```
slope [[2.27380952]]
```

In [21]:
```
y_pred=model.predict(x)
```

In [22]:
```
print("predicted response:",y_pred)
```

```
predicted response: [ 9.91666667 12.19047619 14.46428571 16.73809524 19.01190476 21.28571429
 23.55952381 25.83333333]
```

In [23]:
```
y_pred=model.intercept_+model.coef_*x
```

In [24]:
```
print("predicted response:",y_pred,sep='\n')
```

```
predicted response:
[[ 9.91666667]
 [12.19047619]
 [14.46428571]
 [16.73809524]
 [19.01190476]
 [21.28571429]
 [23.55952381]
 [25.83333333]]
```

In [ ]:
```

```