OPTION [3]- SPREADSHEET ANALYSIS

WHAT DOES THE PROJECT DO?

- Reads the data from ‘Sales.csv’ spreadsheet
- Collects the sales from each month into a single list
- Outputs the total sales across all months

```
monthly sales
jan 6226
feb 1521
mar 1842
apr 2051
may 1728
jun 2138
jul 7479
aug 4434
sep 3615
oct 5472
nov 7224
dec 1812
```

THE CODE

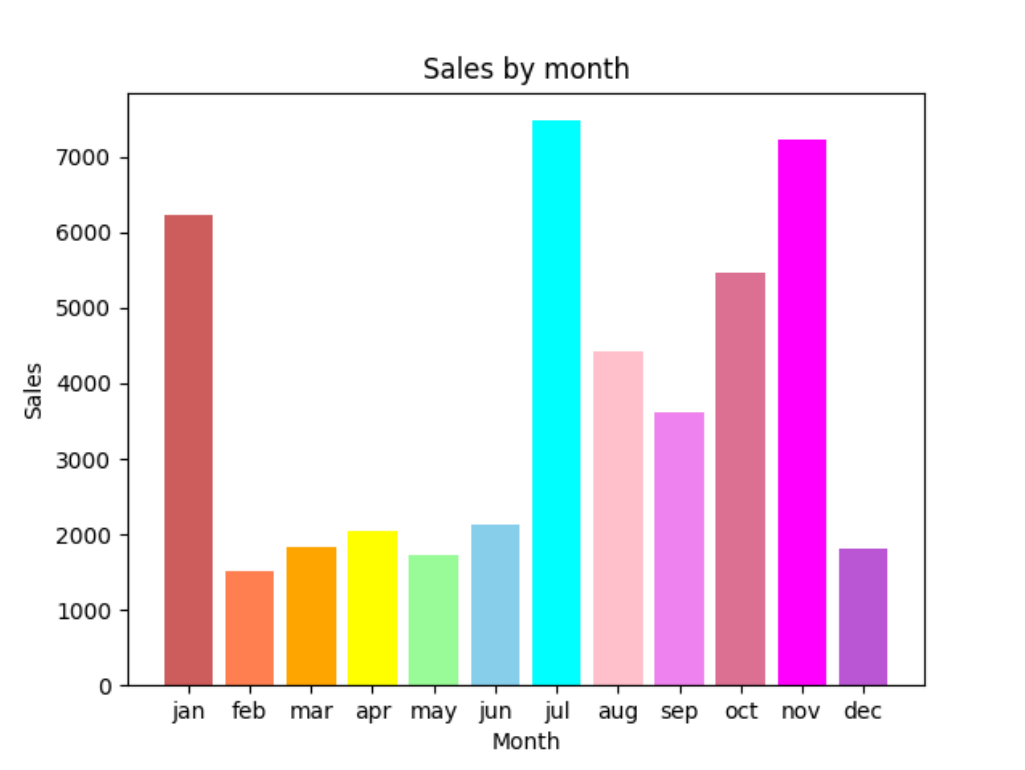
```python
import csv

with open('sales.csv','r') as csv_file:
    spreadsheet = csv.DictReader(csv_file)

    sales = []

    for row in spreadsheet:
        sales_data = row['sales']
        sales.append(sales_data)

total_sales = 0

for total in sales:
    total_sales = total_sales + int(total)

print('Total Sales in 2018 = £',total_sales)
```

```
Graph
/Users/saraharlow/PycharmProjects/pythonProject/SalesPr
Total Sales in 2018 = £ 45542

Process finished with exit code 0
```

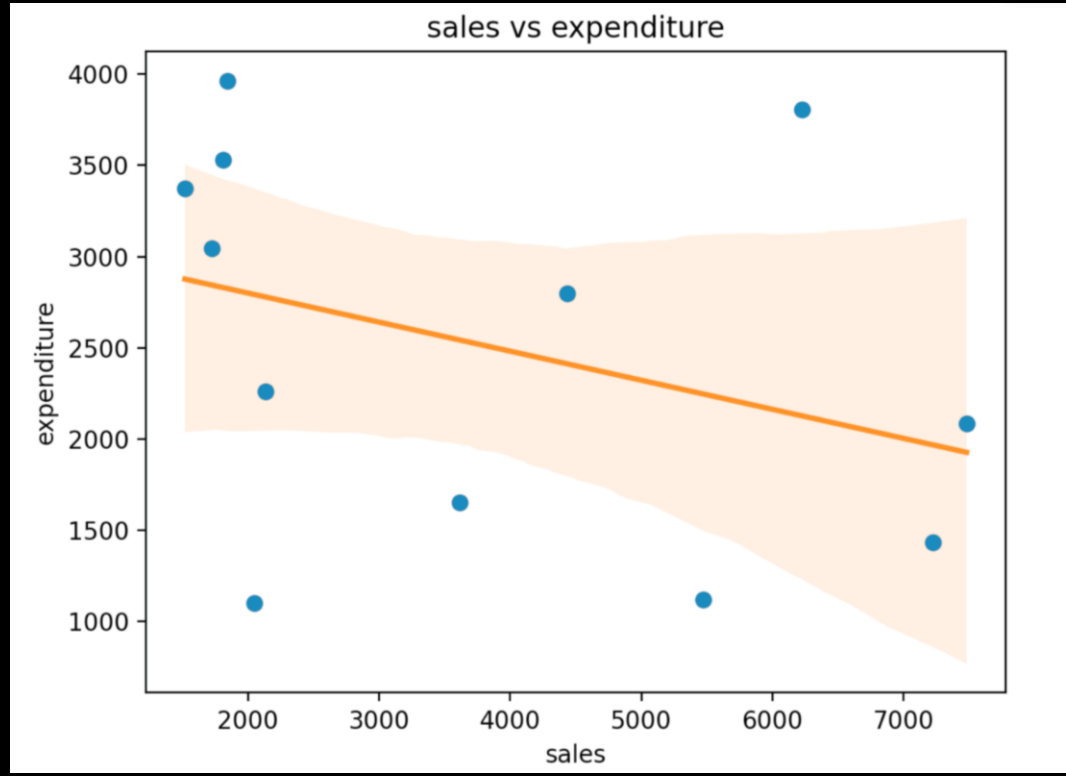
```python
import csv
with open('sales.csv', newline='') as csvfile:
    monthly_sales = csv.DictReader(csvfile)
    print('monthly sales')

    for row in monthly_sales:
        print(row['month'], row['sales'])
```

```
Graph
/Users/saraharlow/PycharmProjects/pythonProject/SalesPro
monthly sales
jan 6226
feb 1521
mar 1842
apr 2051
may 1728
jun 2138
jul 7479
aug 4434
sep 3615
oct 5472
nov 7224
dec 1812
```

EXTENDING THE PROJECT



Bar graph of sales by month



Scatter graph of Sales vs Expenditure

A SKILL WE LEARNED

Bar graph code

```
import seaborn
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd

ds = pd.read_csv('sales.csv', sep=",", header=0)
column_month = ds["month"]
print(column_month)
y_pos = np.arange(len(column_month))

ds = pd.read_csv('sales.csv', sep=",", header=0)
column_sales = ds["sales"]
print(column_sales)
plt.bar(y_pos, column_sales, color=['indianred', 'coral', 'orange', 'yellow', 'palegreen', 'skyblue', 'cyan', 'pink',
                                    'violet', 'palevioletred', 'magenta', 'mediumorchid'])

# Create names on the x-axis
plt.xticks(y_pos, column_month)
plt.title('Sales by month')
plt.xlabel('Month')
plt.ylabel('Sales')

# Show graphic
plt.show()
```

A DIFFICULT PART OF THE PROJECT WE SOLVED

Scatter Graph Code

```
# libraries
import matplotlib.pyplot as plt
import pandas as pd
import seaborn as sns

# Create a dataset:
df = pd.read_csv('sales.csv')
# x = 'sales'
# y = 'expenditure'
plt.plot('sales','expenditure', data=df, linestyle='none', marker='o')
plt.title('sales vs expenditure')
plt.xlabel('sales')
plt.ylabel('expenditure')

sns.regplot(df['sales'], df['expenditure'])

# # Show graphic
plt.show()
print('Sales/Expenditure')
```

AN INTERESTING PIECE OF CODE

Scatter
Graph Code

```
# libraries
import matplotlib.pyplot as plt
import pandas as pd
import seaborn as sns

# Create a dataset:
df = pd.read_csv('sales.csv')
# x = 'sales'
# y = 'expenditure'
plt.plot('sales','expenditure', data=df, linestyle='none', marker='o')
plt.title('sales vs expenditure')
plt.xlabel('sales')
plt.ylabel('expenditure')

sns.regplot(df['sales'], df['expenditure'])

# # Show graphic
plt.show()
print('Sales/Expenditure')
```

IF WE HAD MORE TIME

- Further customise our scatter graph
- Output final summary results to a spreadsheet

THANKS FOR LISTENING!
ANY QUESTIONS?