

```
import csv
```

```
import os
```

```
# File to store the expenses
```

```
FILE_NAME = 'expenses.csv'
```

```
def initialize_file():
```

```
    """Create the CSV file with headers if it  
    doesn't exist."""
```

```
    if not os.path.exists(FILE_NAME):
```

```
        with open(FILE_NAME, 'w', newline=")
```

```
as file:
```

```
            writer = csv.writer(file)
```

```
            writer.writerow(['Date', 'Category',  
'Description', 'Amount'])
```

```
def add_expense(date, category,  
description, amount):
```

```
    """Add a new expense to the CSV file."""
```

```
    with open(FILE_NAME, 'a', newline=") as  
file:
```

```
writer = csv.writer(file)
writer.writerow([date, category,
description, amount])
```

```
def view_expenses(filter_category=None):
    """View all expenses, optionally filtered
    by category."""
```

```
    with open(FILE_NAME, 'r') as file:
        reader = csv.reader(file)
        next(reader) # Skip the header
        for row in reader:
            if filter_category is None or row[1]
== filter_category:
                print(f>Date: {row[0]}, Category:
{row[1]}, Description: {row[2]}, Amount:
{row[3]}")
```

```
def delete_expense(index):
    """Delete an expense by its index."""
    with open(FILE_NAME, 'r') as file:
        rows = list(csv.reader(file))
```

```
    if 0 < index < len(rows):
        del rows[index]
        with open(FILE_NAME, 'w', newline=")
as file:
            writer = csv.writer(file)
            writer.writerows(rows)
            print(f"Expense at index {index}
deleted.")
    else:
        print(f"No expense found at index
{index}.")
```

```
# Initialize the CSV file
initialize_file()
```

```
# Example Usage
```

```
add_expense('2024-09-01', 'Food', 'Lunch',
12.50)
```

```
add_expense('2024-09-02', 'Transport', 'Bus
Ticket', 2.75)
```

```
print("All Expenses:")  
view_expenses()
```

```
print("\nFiltered Expenses (Category:  
Food):")  
view_expenses('Food')
```

```
delete_expense(1)
```