1. Electricity Bill Calculator (WAPDA)

Problem Statement:

Write a C program that calculates an **electricity bill** using the following function:

```
float calculateBill(int units);
```

This function takes **units consumed** as input and returns the **total bill amount** based on the following WAPDA tariff:

Units Consumed	Rate per Unit (PKR)
1 - 100	18
101 - 200	22
201 - 300	26
301 - 700	30
Above 700	35

Example:
Input: `250` units
Output: **Bill = 5850 PKR**

2. Pakistan Fuel Cost Estimator

Problem Statement:

Write a C program that calculates the cost of a **road trip in Pakistan**. Define a function:

```
float calculateFuelCost(float distance, float fuelAverage, float fuelPrice);
```

- `distance` = total trip distance (in kilometers)
- `fuelAverage` = vehicle's fuel consumption (km/liter)
- `fuelPrice` = current per liter fuel price (get from user)

Example:
Input: **Lahore to Islamabad (distance = 375 km), Fuel avg = 12 km/l, Fuel price = 290 PKR**
Output: **Total Fuel Cost = 9062 PKR**

3. Zakat Calculator (Islamic Finance)

Problem Statement:

Write a function:

```
float calculateZakat(float totalWealth);
```

- **Zakat is 2.5% of total wealth** if it **exceeds 87.48 grams of gold** or **612.36 grams of silver**.
- Assume **1 gram of gold = 18,000 PKR** (Ask user to enter current rates).
- Check if total wealth meets the **Nisab threshold** before applying Zakat.

Example:
Input: **Total Wealth = 500,000 PKR**
Output: **Zakat Payable = 12,500 PKR**

4. Mobile Balance & Tax Deduction Calculator (PTA)

Problem Statement:

Write a function:

```
float remainingBalance(float amount);
```

- **Mobile balance tax deduction (2024 update)**:
  - **FED (Federal Excise Duty)**: 19.5%
  - **Service Charges**: 10%
  - **After Tax Balance** = `amount - (FED + Service Charges)`

Example:
Input: **Recharge 1000 PKR**
Output: **Available Balance = 715 PKR**

5. University GPA Calculator (HEC Standards)

Problem Statement:

Write a function:

```
float calculateGPA(int marks);
```

- **GPA Scale (HEC Pakistan Standard)**:
  - **85+ Marks** → GPA = 4.0
  - **80-84** → GPA = 3.7
  - **75-79** → GPA = 3.3
  - **70-74** → GPA = 3.0

- **65-69** → GPA = 2.7
- **60-64** → GPA = 2.3
- **Below 60** → Fail

Example:
Input: **Marks = 78**
Output: **GPA = 3.3**

6. Currency Converter (USD, SAR, AED to PKR)

Problem Statement:

Write a function:

```
float convertCurrency(float amount, char currencyType);
```

- Convert **USD, SAR, or AED** to **PKR** using user-input exchange rates.

Example:
Input: **100 USD** (1 USD = 280 PKR)
Output: **PKR = 28,000**

7. Tax Calculation for Salaried Employees (FBR Pakistan)

Problem Statement:

Write a function:

```
float calculateIncomeTax(float salary);
```

- **FBR 2024 Income Tax Slabs** for salaried persons:
  - **Below 600,000 PKR** → No tax
  - **600,000 – 1,200,000 PKR** → 2.5%
  - **1,200,000 – 2,400,000 PKR** → 12.5%
  - **2,400,000 – 3,600,000 PKR** → 20%
  - **Above 3,600,000 PKR** → 30%

Example:
Input: **Monthly Salary = 150,000 PKR**
Output: **Annual Tax = 225,000 PKR**

8. Load Shedding Schedule (WAPDA)

Problem Statement:

Write a function:

```
void showLoadSheddingSchedule(char city[]);
```

- Ask the user for their **city name** (e.g., Karachi, Lahore, Islamabad).
- Show a **randomized schedule** for electricity load shedding.

Example:
Input: **Karachi**
Output:

```
Monday: 6 AM - 8 AM, 6 PM - 8 PM
Tuesday: 7 AM - 9 AM, 5 PM - 7 PM
...
```

9. Internet Package Cost Estimator (Zong, Jazz, Telenor)

Problem Statement:

Write a function:

```
float internetPackageCost(int GB, char network[]);
```

- Calculate the cost of **Zong, Jazz, or Telenor** internet packages based on:
  - **Zong:** 100 PKR per 1 GB
  - **Jazz:** 120 PKR per 1 GB
  - **Telenor:** 90 PKR per 1 GB

Example:
Input: **10 GB on Jazz**
Output: **Cost = 1200 PKR**

10. Train Ticket Booking System (Pakistan Railways)

Problem Statement:

Write a function

```
float calculateTrainFare(char class[], float distance);
```

- Calculate the **fare** for **Pakistan Railways**:
    - **Economy Class:** 5 PKR/km
    - **Business Class:** 10 PKR/km
    - **First Class:** 15 PKR/km

Example:
Input: **Karachi to Lahore (1250 km, Business Class)**
Output: **Fare = 12,500 PKR**