Basic Problem Statements

1. Parking Fee Calculator

Question: Write a program to calculate the total parking fee based on the number of hours parked. The parking lot charges $5 for the first hour and $3 for each additional hour. The maximum daily fee is $20.
Sample Input:

```
Enter hours parked: 8
```

Sample Output:

```
Parking Fee: $20
```

2. Discount Eligibility

Question: Determine the discount rate for a customer. A 10% discount is applied if the customer spends more than $100, and a 20% discount if they spend more than $500. Otherwise, no discount applies.
Sample Input:

```
Enter total amount: 450
```

Sample Output:

```
Discount Applied: 10%
```

3. Leap Year Checker

Question: Write a program to check if a given year is a leap year.
Sample Input:

```
Enter year: 2024
```

Sample Output:

```
Leap Year: Yes
```

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4. Calculate Taxi Fare

Question: A taxi charges $10 for the first 5 kilometers and $2 for every additional kilometer. Write a program to calculate the total fare.
Sample Input:

```
Enter kilometers traveled: 12
```

Sample Output:

```
Total Fare: $24
```

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5. Triangle Validity

Question: Write a program to check if three sides form a valid triangle.
Sample Input:

```
Enter side1: 3
Enter side2: 4
Enter side3: 5
```

Sample Output:

```
Valid Triangle: Yes
```

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6. Password Strength Checker

Question: Write a program to check if a password is strong. A password is considered strong if it has at least 8 characters and contains at least one digit.

Sample Input:

```
Enter password: pass1234
```

Sample Output:

```
Password Strength: Strong
```

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7. Grade Calculator

Question: Determine the grade of a student based on their score.

- A for 90-100
- B for 80-89
- C for 70-79
- F for below 70

  Sample Input:

```
Enter score: 85
```

Sample Output:

```
Grade: B
```

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8. BMI Calculator

Question: Write a program to calculate Body Mass Index (BMI) and categorize it as Underweight, Normal, or Overweight.

Sample Input:

```
Enter weight (kg): 70
Enter height (m): 1.75
```

Sample Output:

```
BMI: 22.86
Category: Normal
```

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9. Electricity Bill Calculator

Question: Calculate the electricity bill based on usage:

- $0.5 per unit for the first 100 units.
- $1 per unit for 101-200 units.
- $1.5 per unit for above 200 units.

  Sample Input:

```
Enter units consumed: 250
```

Sample Output:

```
Total Bill: $275
```

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10. Shopping Budget Checker

Question: Write a program to check if the total cost of items exceeds a given budget.
Sample Input:

```
Enter budget: 500
Enter item1 cost: 150
Enter item2 cost: 200
Enter item3 cost: 250
```

Sample Output:

```
Budget Exceeded: Yes
```

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11. Student Attendance Checker

Question: A student is allowed to sit for the exam only if their attendance is 75% or above. Write a program to determine eligibility.
Sample Input:

```
Enter total classes: 100
Enter classes attended: 72
```

Sample Output:

```
Eligible for Exam: No
```

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12. Library Fine Calculator

Question: A library charges $1 per day for the first 10 days of late return, $2 for the next 10 days, and $5 for each additional day. Write a program to calculate the fine.

Sample Input:

```
Enter days late: 25
```

Sample Output:

```
Fine: $55
```

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13. Fuel Efficiency Checker

Question: Write a program to determine if a car is fuel-efficient. A car is considered fuel-efficient if it runs more than 15 km per liter.

Sample Input:

```
Enter distance traveled (km): 300
Enter fuel consumed (liters): 18
```

Sample Output:

```
Fuel-Efficient: No
```

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14. Bill Splitter

Question: Write a program to split a restaurant bill among friends, adding a 10% tip to the total bill.
Sample Input:

```
Enter total bill: 120
Enter number of people: 4
```

Sample Output:

```
Each Person Pays: $33
```

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15. Age Category Finder

Question: Write a program to determine if a person is a Child (age < 12), Teen (12-18), Adult (18-60), or Senior (60+).
Sample Input:

```
Enter age: 25
```

Sample Output:

```
Category: Adult
```

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16. Loan Eligibility

Question: A person is eligible for a loan if their income is above $50,000 and they have no outstanding loans. Write a program to check eligibility.

Sample Input:

```
Enter income: 60000
Do you have outstanding loans? (Yes/No): No
```

Sample Output:

```
Eligible for Loan: Yes
```

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17. Temperature Converter

Question: Write a program to convert temperature from Celsius to Fahrenheit.

Sample Input:

```
Enter temperature in Celsius: 25
```

Sample Output:

```
Temperature in Fahrenheit: 77
```

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18. Time of Day Greeting

Question: Write a program to display a greeting based on the time of day:

- "Good Morning" for 5 AM to 12 PM
- "Good Afternoon" for 12 PM to 5 PM
- "Good Evening" for 5 PM to 9 PM
- "Good Night" otherwise
  Sample Input:

```
Enter time (24-hour format): 18
```

Sample Output:

```
Good Evening
```

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19. Palindrome Checker

Question: Write a program to check if a 3-digit number is a palindrome.
Sample Input:

```
Enter a number: 121
```

Sample Output:

```
Palindrome: Yes
```

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20. Currency Denomination

Question: Write a program to break an amount into $100, $50, $20, $10, and $1 denominations.
Sample Input:

```
Enter amount: 286
```

Sample Output:

```
$100 bills: 2
$50 bills: 1
$20 bills: 1
$10 bills: 1
$1 bills: 6
```

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21. Odd-Even Position Sum

Question: Write a program to check if the sum of digits at odd positions in a number is greater than those at even positions.
Sample Input:

```
Enter number: 123456
```

Sample Output:

```
Odd Position Sum: 9
Even Position Sum: 12
Result: Even Position Sum is Greater
```

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22. Water Bill Calculator

Question: Calculate the water bill based on consumption:

- $5 per 1000 liters for the first 5000 liters
- $8 per 1000 liters for the next 5000 liters
- $10 per 1000 liters for consumption above 10000 liters
  Sample Input:

```
Enter water consumed (liters): 12000
```

Sample Output:

```
Total Bill: $104
```

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23. Reverse Digits

Question: Write a program to reverse a 3-digit number.
Sample Input:

```
Enter a number: 123
```

Sample Output:

```
Reversed Number: 321
```

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24. Weekday Finder

Question: Write a program to determine the day of the week based on a number (1 for Monday, 2 for Tuesday, etc.).

Sample Input:

```
Enter number: 5
```

Sample Output:

```
Day: Friday
```

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25. Voter Eligibility

Question: Write a program to check if a person is eligible to vote. A person is eligible if they are 18 or older.

Sample Input:

```
Enter age: 17
```

Sample Output:

```
Eligible to Vote: No
```
