```python
#Q1
def is_leap_year(year):
    if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
        return True
    else:
        return False

year = int(input("Enter a year: "))
if is_leap_year(year):
    print(f"{year} is a leap year.")
else:
    print(f"{year} is not a leap year.")
```

```
Enter a year: 2024
2024 is a leap year.
```

```python
#Q2
def count_vowels(word):
    vowels = 'aeiou'
    count = 0
    for char in word.lower():
        if char in vowels:
            count += 1
    return count

word = input("Enter a word: ")
print(f"Number of vowels in '{word}': {count_vowels(word)}")
```

```
Enter a word: Devanshu
Number of vowels in 'Devanshu': 3
```

```python
#Q3
names = [input(f"Enter name {i+1}: ") for i in range(6)]
a_names = [name for name in names if name.lower().startswith('a')]
print("Names starting with 'a':", a_names)
```

```
Enter name 1: Devanshu
Enter name 2: Pranav
Enter name 3: Ayushi
Enter name 4: Prachiti
Enter name 5: Ishani
Enter name 6: Anuj
Names starting with 'a': ['Ayushi', 'Anuj']
```

```python
#Q4
numbers = [int(input(f"Enter number {i+1}: ")) for i in range(10)]

for num in numbers:
    if num % 2 == 0:
        print(num ** 2)
```

```python
    else:
        print(num ** 3)
```

```
Enter number 1: 4
Enter number 2: 6
Enter number 3: 8
Enter number 4: 10
Enter number 5: 12
Enter number 6: 14
Enter number 7: 16
Enter number 8: 18
Enter number 9: 20
Enter number 10: 22
16
36
64
100
144
196
256
324
400
484
```

```python
#Q5
rose_price = 10

roses_count = int(input("Enter the count of roses you wish to order: "))
delivery_distance = float(input("Enter the delivery distance in kilometers: "))

delivery_charge = 25
if delivery_distance > 5:
    delivery_charge = 50
if delivery_distance > 10:
    delivery_charge = 75

total_price = rose_price * roses_count + delivery_charge
print(f"Total price to pay: Rs. {total_price}")
```

```
Enter the count of roses you wish to order: 10
Enter the delivery distance in kilometers: 22
Total price to pay: Rs. 175
```