Assignment Number: 5.1

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Batch:08

Task 1: Privacy in API Usage

```python
import os
import requests

API_KEY = os.getenv("WEATHER_API_KEY")
url = f"https://api.weatherapi.com/v1/current.json?key={API_KEY}&q=London"
response = requests.get(url)
print(response.json())
```

Task 2: Privacy & Security in File Handling

```python
import hashlib

password = "user_password"
hashed_password = hashlib.sha256(password.encode()).hexdigest()

with open("users.txt", "w") as f:
    f.write(hashed_password)
```

Task 3: Transparency in Algorithm Design

```python
def is_armstrong(num):
    temp = num
    total = 0
    digits = len(str(num))
    while temp > 0:
        digit = temp % 10
        total += digit ** digits
        temp //= 10
```

```
    return total == num
```

Task 4: Transparency in Algorithm Comparison

```
.def bubble_sort(arr):
   for i in range(len(arr)):
      for j in range(0, len(arr)-i-1):
         if arr[j] > arr[j+1]:
            arr[j], arr[j+1] = arr[j+1], arr[j]


def quick_sort(arr):
   if len(arr) <= 1:
      return arr
   pivot = arr[len(arr)//2]
   left = [x for x in arr if x < pivot]
   middle = [x for x in arr if x == pivot]
   right = [x for x in arr if x > pivot]
   return quick_sort(left) + middle + quick_sort(right)
```

Task 5: Transparency in AI Recommendations

```
def recommend(product, history):
   if product in history:
      return "Recommended because you previously liked similar items."
```