assignment 8

Q1

```
# To determine alkalinity of given sample
H2SO4_req = float(input("Enter the volume of H2SO4 required in ml:"))
Sample = float(input("Enter the value of sample in litres:"))
Alkalinity_Removed = H2SO4_req
print("Alkalinity Removed:", Alkalinity_Removed, "mg")
Alk_mgperlit = Alkalinity_Removed / Sample
print("Total Alkalinity:", Alk_mgperlit, "mg/lit")
OH = float(input("Enter the value of OH-Alkalinity present: "))
# Alkalinity removed till pH of 8.3
H2SO4_req = float(input("Enter the volume of H2SO4 required in ml:"))
Alkalinity_Removed = H2SO4_req
print("Alkalinity Removed:", Alkalinity_Removed, "mg")
CO3_Combined = Alkalinity_Removed / Sample
print("Carbonate Alkalinity upto pH 8.3:", CO3_Combined, "mg/lit")
CO3 = CO3_Combined - OH
print("Carbonate Alkalinity:", CO3, "mg/lit")
HCO3 = Alk_mgperlit - 2 * CO3 - OH
print("Bicarbonate Alkalinity:", HCO3, "mg/lit")
```

output-

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Enter the volume of H2SO4 required in ml:30
Enter the value of sample in litres:0.2
Alkalinity Removed: 30.0 mg
Total Alkalinity: 150.0 mg/lit
Enter the value of OH-Alkalinity present: 5
Enter the volume of H2SO4 required in ml:11
```

Alkalinity Removed: 11.0 mg

Carbonate Alkalinity upto pH 8.3: 55.0 mg/lit

Carbonate Alkalinity: 50.0 mg/lit

Bicarbonate Alkalinity: 45.0 mg/li