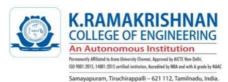




APPENDIX

(Coding)

```
import java.util.HashMa;
import java.util.Map;
import java.util.Scanner;
public class
CurrencyConverter {
  // Predefined exchange rates (Example rates)
  private static Map<String, Map<String, Double>> exchangeRates = new HashMap<>();
  static {
    Map<String, Double> usdRates = new HashMap<>();
    usdRates.put("EUR", 0.93);
    usdRates.put("GBP", 0.82);
    usdRates.put("INR", 83.0);
    usdRates.put("JPY", 150.0);
    exchangeRates.put("USD", usdRates);
    Map<String, Double> eurRates = new
    HashMap<>();eurRates.put("USD", 1.08);
    eurRates.put("GBP", 0.88);
    eurRates.put("INR", 89.2);
    eurRates.put("JPY", 161.2);
    exchangeRates.put("EUR", eurRates);
    Map<String, Double> gbpRates = new
    HashMap<>();gbpRates.put("USD", 1.22);
    gbpRates.put("EUR", 1.14);
    gbpRates.put("INR", 101.5);
```





```
gbpRates.put("JPY", 183.4);
  exchangeRates.put("GBP", gbpRates);
  Map<String, Double> inrRates = new
  HashMap<>();inrRates.put("USD", 0.012);
  inrRates.put("EUR", 0.011);
  inrRates.put("GBP", 0.0098);
  inrRates.put("JPY", 1.81);
  exchangeRates.put("INR", inrRates);
  Map<String, Double> jpyRates = new
  HashMap<>();jpyRates.put("USD", 0.0067);
  jpyRates.put("EUR", 0.0062);
  jpyRates.put("GBP", 0.0055);
  ipyRates.put("INR", 0.55);
  exchangeRates.put("JPY", jpyRates);
}
public static double convertCurrency(String source, String target, double amount) {
  if (exchangeRates.containsKey(source) &&
    exchangeRates.get(source).containsKey(target)) {double rate =
    exchangeRates.get(source).get(target);
    return amount * rate;
  }
  return -1; // Return -1 if conversion rate is not found
}
public static void main(String[] args) {
  Scanner scanner = new
  Scanner(System.in);
  System.out.println("Welcome to the Currency Converter!");
  System.out.println("Available currencies: USD, EUR, GBP, INR, JPY");
```





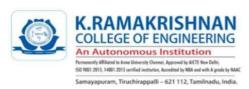
```
// Input source currency
System.out.print("Enter the source currency (e.g., USD):
");String sourceCurrency =
scanner.nextLine().toUpperCase();
if (!exchangeRates.containsKey(sourceCurrency))
  {System.out.println("Invalid source
  currency!"); return;
}
System.out.print("Enter the target currency (e.g., EUR): ");
String targetCurrency = scanner.nextLine().toUpperCase();
if (!exchangeRates.containsKey(targetCurrency))
  {System.out.println("Invalid target currency!");
  return;
System.out.print("Enter the amount to
convert: ");double amount;
try {
  amount =
  Double.parseDouble(scanner.nextLine());if
  (amount < 0) {
    throw new NumberFormatException();
} catch (NumberFormatException e) {
  System.out.println("Invalid amount! Please enter a valid positive
  number.");return;
}
double convertedAmount = convertCurrency(sourceCurrency, targetCurrency,
amount);if (convertedAmount == -1) {
```



}



```
System.out.printf("Converted amount: %.2f %s%n", convertedAmount,
    targetCurrency);
}
scanner.close();
}
```





CHAPTER 4 RESULTS AND DISCUSSIO

Example Output 1:

```
Welcome to the Currency Converter!
Available currencies: [USD, EUR, GBP, INR,
JPY]
Enter the source currency (e.g., USD): USD
Enter the target currency (e.g., EUR): EUR
Enter the amount to convert: 100
Converted amount: 93.00 EUR
```

Example Output 2:

```
Welcome to the Currency Converter!
Available currencies: [USD, EUR, GBP, INR, JPY]
Enter the source currency (e.g., USD): ABC
Invalid source currency!
```

Example Output 3:

```
Welcome to the Currency Converter!
Available currencies: [USD, EUR, GBP, INR, JPY]
Enter the source currency (e.g., USD): USD
Enter the target currency (e.g., EUR): XYZ
Invalid target currency!
```





Example Output 4:

```
Welcome to the Currency Converter!

Available currencies: [USD, EUR, GBP, INR, JPY]

Enter the source currency (e.g., USD): USD

Enter the target currency (e.g., EUR): EUR

Enter the amount to convert: -50

Amount must be greater than zero!
```

Example Output 5:

```
Welcome to the Currency Converter!
Available currencies: [USD, EUR, GBP, INR,
JPY]
Enter the source currency (e.g., USD): GBP
Enter the target currency (e.g., INR): INR
Enter the amount to convert: 200
Converted amount: 21435.90 INR
```