1. Problem Statement –

A **Currency Converter** program that **takes an amount** in a source currency and converts it **into multiple target currencies** based on **predefined exchange rates**. The user will input the amount and the source currency, and the program will display the equivalent values in several other currencies.

2. Motivation-

2.1. Real World Relevance

Currency conversion is a practical, real-life application that everyone can relate to, especially with online shopping, travel, and global transactions becoming common. Building something useful helps students feel more connected to what they're learning.

2. 2. Concept Reinforcement

The project offers a hands-on way to apply core C programming concepts, such as:

Variables and Data Types (e.g., storing amounts, currency codes)

Control Structures (if-else or switch-case to handle currency logic)

Functions (e.g., creating a reusable currency conversion function)

Loops (e.g., displaying multiple conversions)

Arrays or Structures (to store currency names and rates)

2.3. Improves Logical Thinking

I got to practice breaking down a problem into manageable pieces (input, processing, output). Thinking through logic like exchange rate handling and displaying results builds programming intuition.

3. Objective –

- **To develop a user-interactive program that converts a given amount from a source currency to multiple target currencies using predefined exchange rates.**
- **To implement core programming concepts such as functions, control structures, and arrays or structures for efficient currency data handling and conversion logic.**
- **To enhance problem-solving and logical thinking skills by designing a practical application with real-world relevance and scalable features.**

4. Methodology of Implementation

Pipeline:

Showing the list of the currencies→Input the index of the currency→Enter the amount→Converting the amount to dollars internally using switch case→Asking the user whether the currency is to be converted to a single currency or to some multiple currencies
If the user chooses to convert it into a single currency:
Asking the user to choose the index of the currency →The converted dollars are now converted into that currency.
If the user chooses to convert it into multiple currencies:
Asking the user to enter the number of currencies→Using a for loop to take the input the currencies→Then the converted amount in dollar is converted into all the user selected currencies

Explanation-

The code starts with welcoming the user and showing the user the list of the currencies, the program is compatible with and asks the user to choose the index of the currency. After the currency is selected, the user is asked to enter the amount in the original currency now that the amount is converted to US dollars as this is the universal currency. After the amount is converted to US dollars the user is asked whether he wants to convert the original currency to a single currency or to multiple currencies. If a user chooses to convert it into a single currency, then again, the list is shown and asked to which currency the user wants to convert into and after the user chooses the index the amount which was converted to the dollar now gets converted to the currency the user chooses. In case the user wants to convert the original currency to multiple currency it asks how many currencies you want to convert. As the user inputs the number of currencies a loop runs and asks the user to input the index of the currencies and then the same process runs in the for loop to convert into the selected currencies.

5. **Hardware/Software Used-**
   Hardware Used: Laptop
   Software Used: DEV C++
6. **Data Set Description**

   N/A

7. **Result Analysis with Output Screen Shot-**

```
WELCOME TO CURRENCY CONVERTER
Please Choose the INDEX of the currency you have:
1.INR(India)
2.Dollar(USA)
3.Euros(EU)
4.Pounds(UK)
5.Baht(Thailand)
6.Yen(Japan)
7.Dirham(UAE)
8.Yuan(China)
9.Ruble(Russia)
10.Riyal(Saudi Arabia)
10
Enter the amount:250000
You want to convert the currency to
1.single currency
2.multiplecurrencies
Please choose the index:1
Please Choose the INDEX of the currency you want to convert in:
1.INR(India)
2.Dollar(USA)
3.Euros(EU)
4.Pounds(UK)
5.Baht(Thailand)
6.Yen(Japan)
7.Dirham(UAE)
8.Yuan(China)
9.Ruble(Russia)
10.Riyal(Saudi Arabia)
5
The converted amount in baht is:2327333.25

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Process exited after 14.47 seconds with return value 0
Press any key to continue . . .
```

```
WELCOME TO CURRENCY CONVERTER
Please Choose the INDEX of the currency you have:
1.INR(India)
2.Dollar(USA)
3.Euros(EU)
4.Pounds(UK)
5.Baht(Thailand)
6.Yen(Japan)
7.Dirham(UAE)
8.Yuan(China)
9.Ruble(Russia)
10.Riyal(Saudi Arabia)
5
Enter the amount:2535485
You want to convert the currency to
1.single currency
2.multiplecurrencies
Please choose the index:2
Please Enter the number of currencies you want to convert:4
1.INR(India)
2.Dollar(USA)
3.Euros(EU)
4.Pounds(UK)
5.Baht(Thailand)
6.Yen(Japan)
7.Dirham(UAE)
8.Yuan(China)
9.Ruble(Russia)
10.Riyal(Saudi Arabia)
Enter the INDEX for currency 1:2
Enter the INDEX for currency 2:7
Enter the INDEX for currency 3:9
Enter the INDEX for currency 4:2
The amount in dollar is:72629.19
The converted amount in dirham is:266549.13
The converted amount in ruble is:6235215.50
The amount in dollar is:72629.19

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Process exited after 13.61 seconds with return value 0
Press any key to continue . . .
```

8. Learning Outcome-

 Understand **and apply fundamental programming concepts** such as variables, data types, control structures, functions, and loops in C.

 Gain experience in handling user input and performing calculations, including how to manage multiple outputs based on a single input scenario.

 Learn how to implement decision-making logic using control statements like if-else or switch-case to handle multiple currency conversion options.

 Develop problem-solving and logical thinking skills by breaking down a real-world problem into smaller, manageable components and implementing a working solution.

9. References

- **Used Geeks for Geeks –** For learning the code to check whether the user has given a valid float number in amount.