CURRENCY CONVERTER

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ORGANIZATION: Micro IT

TOPIC: Currency Converter

INTRODUCTION

A currency converter is a software application that allows users to convert one currency into another using exchange rates.

This project explores how currency values change and how to implement basic conversion logic in C.

OBJECTIVES OF THE PROJECT

➢ To understand how currency exchange works

➢ To apply C programming to real-life finance use cases

➢ To design a simple and interactive converter

➢ To learn about exchange rates and conversion formulas

WHAT IS A CURRENCY CONVERTER?

A currency converter lets users:

- ➢ Select source and target currencies
- ➢ Input the amount to be converted

- ➢ View the converted result using fixed/static rates

Commonly used in:

- ➢ Travel and tourism
- ➢ International trade
- ➢ Online shopping

CURRENCIES USED IN THIS PROJECT

- ➢ USD – United States Dollar
- ➢ INR – Indian Rupee
- ➢ EUR – Euro
- ➢ YEN – Japanese Yen
- ➢ GBP – Great Britain Pound

CURRENCY CONVERSION PROCESS

- ➢ Display available currencies
- ➢ Take user input for "from" and "to" currency
- ➢ Accept the amount to be converted
- ➢ Multiply the amount by the exchange rate
- ➢ Display the converted result

TOOLS USED

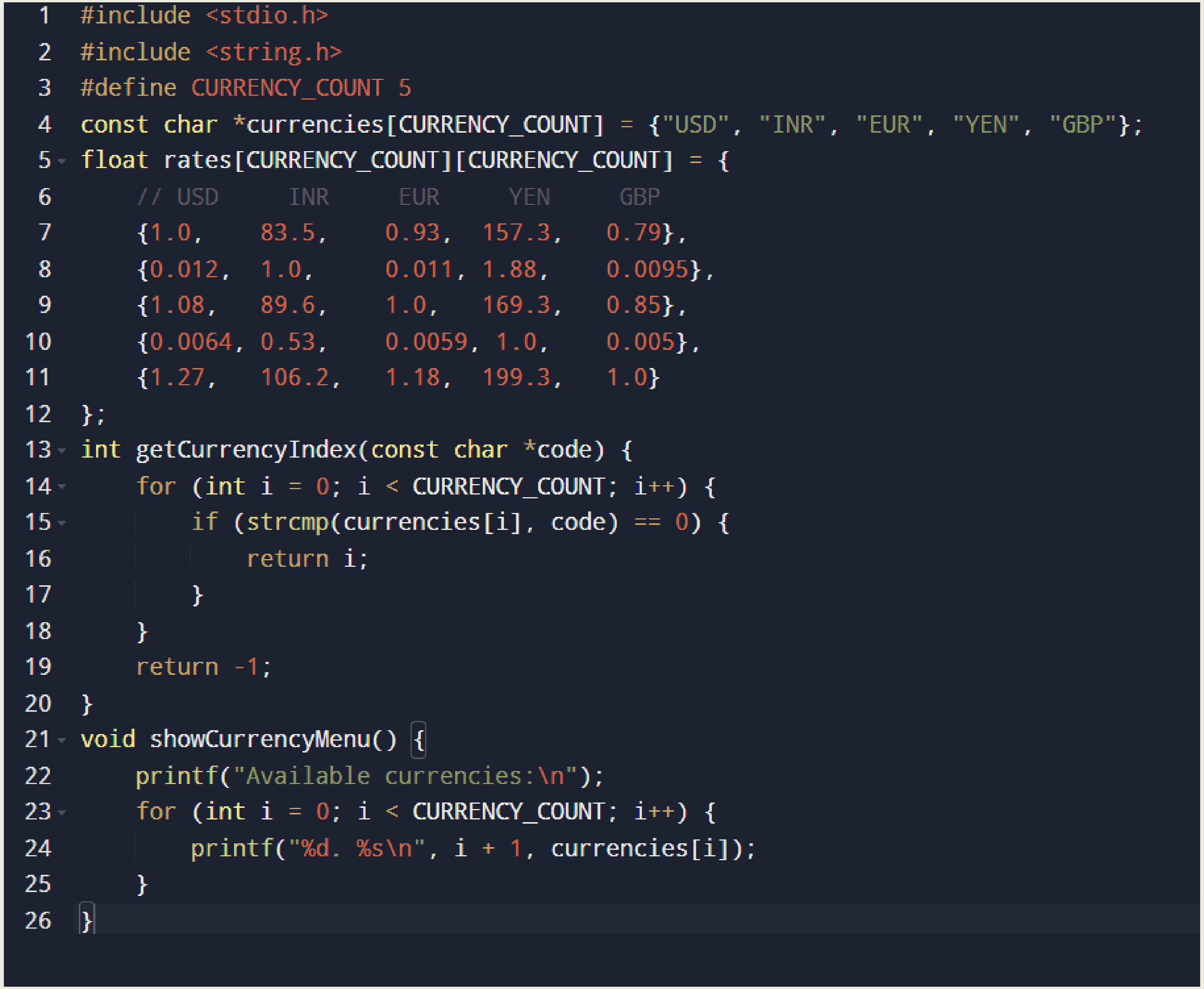
- C Language
- GCC Compiler
- Command-line Interface
- 2D Arrays for rate storage
- If/else and switch for control

SAMPLE OUTPUT

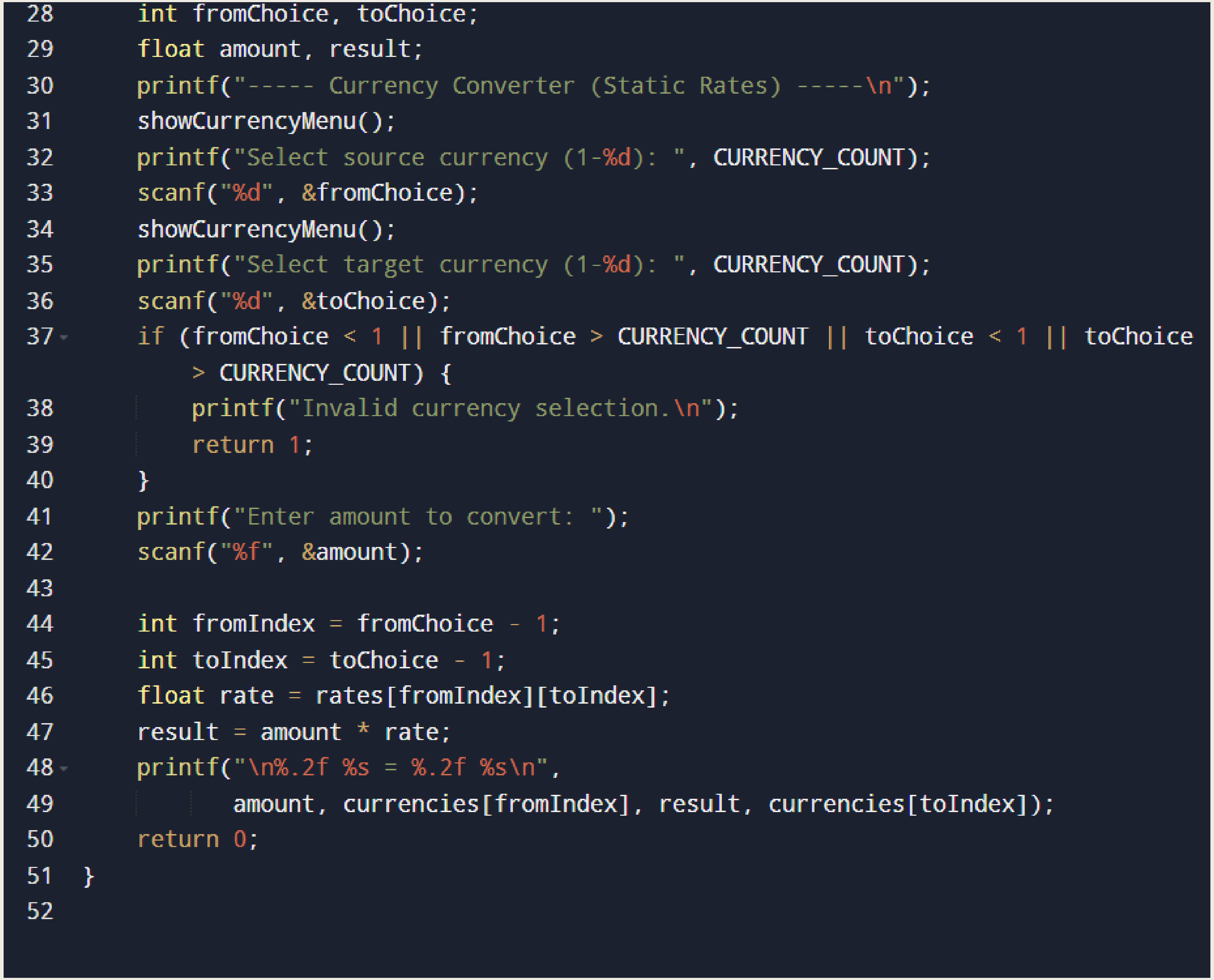
```
Currency Converter
Available currencies:
1. USD
2. INR
3. EUR
4. YEN
5. GBP
Select source: 1
Select target: 2
Enter amount: 10
Result: 10.00 USD = 835.00 INR
```

KEY LEARNINGS FROM THE PROJECT

➢ Learned how currency conversion works
➢ Implemented 2D arrays in real applications
➢ Improved logical thinking and user interface design
➢ Understood mapping between currency codes and values



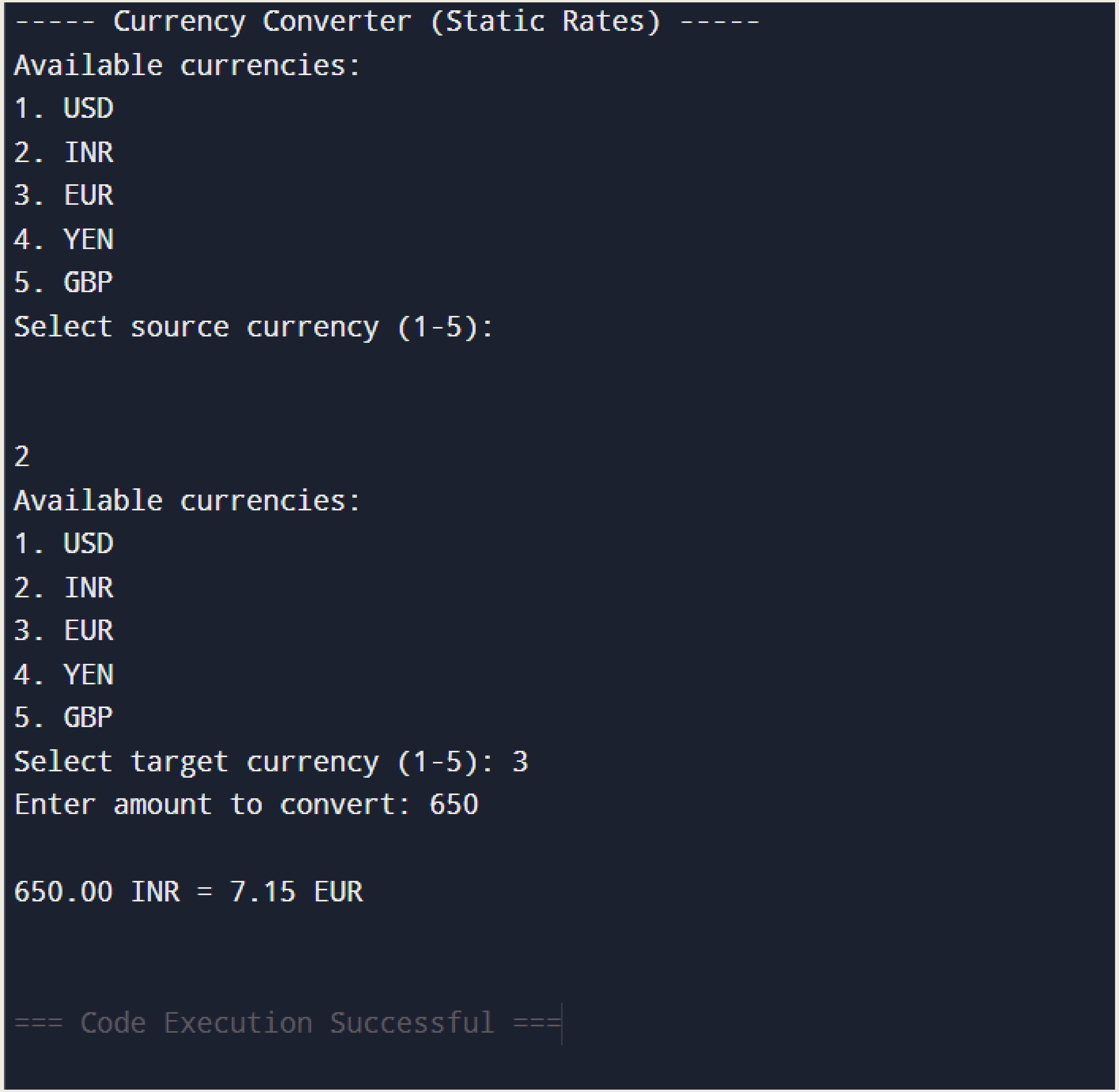
```c
#include <stdio.h>
#include <string.h>
#define CURRENCY_COUNT 5
const char *currencies[CURRENCY_COUNT] = {"USD", "INR", "EUR", "YEN", "GBP"};
float rates[CURRENCY_COUNT][CURRENCY_COUNT] = {
    // USD     INR     EUR     YEN     GBP
    {1.0,    83.5,    0.93,  157.3,   0.79},
    {0.012,  1.0,     0.011, 1.88,    0.0095},
    {1.08,   89.6,    1.0,   169.3,   0.85},
    {0.0064, 0.53,    0.0059, 1.0,    0.005},
    {1.27,   106.2,   1.18,  199.3,   1.0}
};
int getCurrencyIndex(const char *code) {
    for (int i = 0; i < CURRENCY_COUNT; i++) {
        if (strcmp(currencies[i], code) == 0) {
            return i;
        }
    }
    return -1;
}
void showCurrencyMenu() {
    printf("Available currencies:\n");
    for (int i = 0; i < CURRENCY_COUNT; i++) {
        printf("%d. %s\n", i + 1, currencies[i]);
    }
}
```



```c
    int fromChoice, toChoice;
    float amount, result;
    printf("----- Currency Converter (Static Rates) -----\n");
    showCurrencyMenu();
    printf("Select source currency (1-%d): ", CURRENCY_COUNT);
    scanf("%d", &fromChoice);
    showCurrencyMenu();
    printf("Select target currency (1-%d): ", CURRENCY_COUNT);
    scanf("%d", &toChoice);
    if (fromChoice < 1 || fromChoice > CURRENCY_COUNT || toChoice < 1 || toChoice > CURRENCY_COUNT) {
        printf("Invalid currency selection.\n");
        return 1;
    }
    printf("Enter amount to convert: ");
    scanf("%f", &amount);

    int fromIndex = fromChoice - 1;
    int toIndex = toChoice - 1;
    float rate = rates[fromIndex][toIndex];
    result = amount * rate;
    printf("\n%.2f %s = %.2f %s\n",
           amount, currencies[fromIndex], result, currencies[toIndex]);
    return 0;
}

```



```
----- Currency Converter (Static Rates) -----
Available currencies:
1. USD
2. INR
3. EUR
4. YEN
5. GBP
Select source currency (1-5):



2
Available currencies:
1. USD
2. INR
3. EUR
4. YEN
5. GBP
Select target currency (1-5): 3
Enter amount to convert: 650

650.00 INR = 7.15 EUR



=== Code Execution Successful ===
```

CONCLUSION

This project helped me understand how to combine programming logic with practical use cases like money exchange.

It also gave me confidence to build more user-focused tools using C and improve my problem-solving abilities.