

Exercise 1

Given the following CurrencyConverter class which handles the exchange between a foreign currency and US dollars.

```
public class CurrencyConverter {
    private double exchangeRate;
    private double commissionRate;
    private int largeAmount;

    public CurrencyConverter(double er , double cr){
        exchangeRate = er;
        commissionRate = cr;
    }

    public double fromUSDollar(double dollar){
        if (dollar >= largeAmount)
            return (dollar * exchangeRate * (1-commissionRate*0.5));    else
            return (dollar * exchangeRate * (1-commissionRate));
        }

    public double toUSDollar(double foreignMoney){
        if (foreignMoney/exchangeRate >= largeAmount)
            return (foreignMoney/exchangeRate*(1-commissionRate*0.5));    else
            return (foreignMoney/exchangeRate*(1-commissionRate));
        }

    public void setExchangeRate(double
rate){
        exchangeRate = rate;
    }

    public double
getExchangeRate(){
        return exchangeRate;
    }

    public void setCommissionRate(double
rate){
        commissionRate = rate;
    }

    public double
getCommissionRate(){
        return commissionRate;
    }
}
```

```

    public void setLargeAmount(int amount){
        largeAmount = amount;
    }

    public int getLargeAmount(){
        return largeAmount;
    }
}

```

Write a `TestCurrencyConverter` class, which tests the `CurrencyConverter` class by performing the following operations:

1. Instantiate two `CurrencyConverter` object with the following attributes:

| | exchangeRate | commissionRate |
|---------------|---------------------|-----------------------|
| yenConverter | 115.7 | 0.0005 |
| euroConverter | 0.9927 | 0.0003 |

2. Set `largeAmount` to 50000.
3. Use the `yenConverter` to convert 1500000 yens to US dollars.
4. Use the `yenConverter` to convert from US\$2000 to yens.
5. Set the exchange rate of euro to 0.9881.
6. Use the `euroConverter` to convert 170000 euros to US\$.
7. Use the `euroConverter` to convert from US\$20000 to euros.

Sample Output

```

1500000 yens = US$ 12958.0812445981
US$ 2000 = 231284.300000000002 yens

170000 euros = US$ 172021.55652261918 US$
20000 = 19756.0714 euros

```

END.