Carreon, Ma. Addine Anne T.
CS128-5L – A1

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In [1]:
```
annual_salary = float(input("Enter your starting annual salary: "))
portion_saved = float(input("Enter the percent of your salary to save, as a decimal: "))
total_cost = float(input("Enter the cost of your dream home: "))
semi_annual_raise = float(input("Enter the semiannual raise, as a decimal: "))

required_dp = 0.25
current_savings = 0.0
r = 0.04
months = 0

monthly_salary = annual_salary / 12
monthly_saved = monthly_salary * portion_saved

dp = total_cost * required_dp

while current_savings < dp:
    current_savings += current_savings * (r / 12)
    current_savings += monthly_saved

    months += 1

    if months % 6 == 0:
        annual_salary += annual_salary * semi_annual_raise
        monthly_salary = annual_salary / 12
        monthly_saved = monthly_salary * portion_saved

print("Number of months:", months)
```

```
Enter your starting annual salary: 120000
Enter the percent of your salary to save, as a decimal: 0.05
Enter the cost of your dream home: 500000
Enter the semiannual raise, as a decimal: 0.03
Number of months: 142
```

TEST CASE 1

```
Enter your starting annual salary: 80000
Enter the percent of your salary to save, as a decimal: 0.1
Enter the cost of your dream home: 800000
Enter the semiannual raise, as a decimal: 0.03
Number of months: 159
```

TEST CASE 2

```
Enter your starting annual salary: 75000
Enter the percent of your salary to save, as a decimal: 0.05
Enter the cost of your dream home: 1500000
Enter the semiannual raise, as a decimal: 0.05
Number of months: 261
```

TEST CASE 3