Lab 6: Saving for Retirement

Fill in your full name

2025-10-09

Exercise 1

```r
savings <- 0
income <- 58000
interest_rate <- 0.06
savings_rate <- 0.10

for (year in 22:65) {
  savings <- savings + (income * savings_rate) + (savings * interest_rate)
}

savings
```

```
## [1] 1158597
```

Exercise 2

```r
final_savings <- 1158597
annual_withdrawal <- final_savings * 0.04
annual_withdrawal
```

```
## [1] 46343.88
```

Exercise 3

```r
savings <- 0
income <- 58000
interest_rate <- 0.06
savings_rate <- 0.10
```

```r
employer_match <- 0.05

for(year in 22:65){
  savings <- savings + (income * (savings_rate + employer_match)) + (savings * interest_rate)
}

savings
```

```
## [1] 1737895
```

Exercise 4

```r
savings <- 0
income <- 58000
interest_rate <- 0.06
savings_rate <- 0.10
employer_match <- 0.05

for(year in 22:65){
  savings <- savings + (income * (savings_rate + employer_match)) + (savings * interest_rate)
  income <- income + 1000
}

savings
```

```
## [1] 2127290
```

Exercise 5

```r
interest_rate <- 0.06
employer_match <- 0.05

savings_early <- 0
income <- 58000

for(year in 22:65){
  if(year <= 31){
    savings_early <- savings_early + (income * (0.05 + employer_match)) + (savings_early * inte
  } else {
    savings_early <- savings_early + (savings_early * interest_rate)
  }
  income <- income + 1000
}
```

```
savings_early
```

```
## [1] 592770.8
```