

Exercise 1

```
for(i in 1:9)
{
  if (i == 9)
  {
    cat("*")
  }

  cat("\n")
}
```

```
##
##
##
##
##
##
##
##
## *
```

Exercise 2

```
for(i in 1:10)
{
  cat("*")

  if (i < 10)
  {
    cat("&")
  }
}
```

```
## *&*&*&*&*&*&*&*&*&*
```

Exercise 3

Variable	Start Value	End Value
dogs	10	15
meatloaf	0	-30
bubbles	12	-4

Exercise 4

```
years <- c( 2015, 2016, 2018, 2020, 2021)
for(ii in 1:length(years))
{
  if(years[ii] %% 2 == 0)
  {
    cat(years[ii], 'Hooray, congressional elections!', sep = '\t', fill = T)
  }

  if(years[ii] %% 4 == 0)
  {
    cat(years[ii], 'Hooray, presidential elections!', sep = '\t', fill = T)
  }
}

## 2016 Hooray, congressional elections!
## 2016 Hooray, presidential elections!
## 2018 Hooray, congressional elections!
## 2020 Hooray, congressional elections!
## 2020 Hooray, presidential elections!
```

Exercise 5

```
bankAccounts <- c(10, 9.2, 5.6, 3.7, 8.8, 0.5);

interestRate <- 0.0125;
compounded <- rep(0, length(bankAccounts))

for (i in 1:length(bankAccounts))
{
  compounded[i] <- interestRate*bankAccounts[i] + bankAccounts[i]
}

compounded

## [1] 10.12500  9.31500  5.67000  3.74625  8.91000  0.50625
```

Exercise 6

```
bankAccounts <- c(10, 9.2, 5.6); #define bank accounts here
interestRate <- 0.0525;
house <- c(4.8, 3.8, 5.7); #deduct
food<- c(3.5, 4.3, 5.0); #deduct
fun <- c(7.8, 2.1, 10.5); #deduct
#and incomes (through TAs) of
income <- c(21, 21, 21); #add this

for (j in 1:5)
{
  for (i in 1:length(bankAccounts))
  {
    bankAccounts[i] <- bankAccounts[i] - house[i] - food[i] - fun[i] + income[i]
    bankAccounts[i] <- interestRate*bankAccounts[i] + bankAccounts[i]
  }
}

bankAccounts

## [1] 41.55520 75.00653 6.06370
```

Exercise 7

```
bankAccounts <- c(10, 9.2, 5.6); #define bank accounts here
interestRate <- 0.0525;
house <- c(4.8, 3.8, 5.7); #deduct
food<- c(3.5, 4.3, 5.0); #deduct
fun <- c(7.8, 2.1, 10.5); #deduct
#and incomes (through TAs) of
income <- c(21, 21, 21); #add this

for (j in 2015:2020)
{
  for (i in 1:length(bankAccounts))
  {
    bankAccounts[i] <- bankAccounts[i] - house[i] - food[i] - fun[i] + income[i]

    if(j%2 == 1 && i != 2)
    {
      bankAccounts[i] <- bankAccounts[i] + 5
    }

    bankAccounts[i] <- interestRate*bankAccounts[i] + bankAccounts[i]
  }
}

bankAccounts

## [1] 67.36527 90.31137 24.64272
```

Exercise 8

```
i <- 1
sum <- 0

while(i <= 17)
{
  sum <- sum + i
  i <- i + 1
}

sum
```

```
## [1] 153
```

Exercise 9

```
Crude_Ruler <- function(num)
{
  if (num < -1)
  {
    cat("small\n")
  }
  else if (num >= -1 && num <= 1)
  {
    cat("medium\n")
  }
  else
  {
    cat("large\n")
  }
}
```