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	dogs	meatloaf	bubbles
1st Iteration	10 – 11	0 – -4	12 – -1
2nd Iteration	11 – 12	-4 – -9	-1 – -2
3rd Iteration	12 – 13	-9 – -15	-2 – -3
4th Iteration	13 – 14	-15 – -22	-3 – -4
5th Iteration	14 – 15	-22 – -30	—

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 TAships) 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 TAships) 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")
    }
}
```