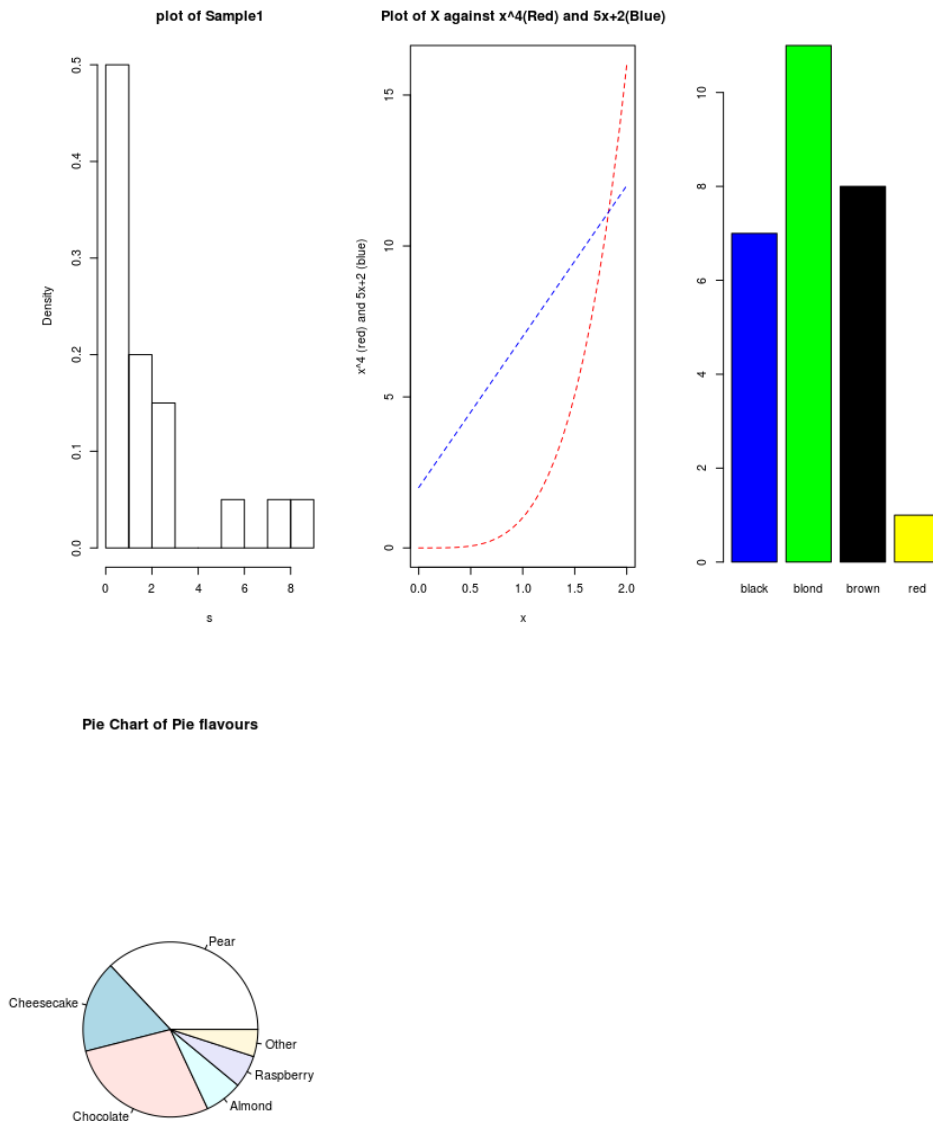Lucas Faijdherbe(2594812) & Ruben van der Ham(2592271) – CS40
Assignment 0

Exercise 0.6

Exercise 0.7
a) We suppose we get a vector containing only 0's and 1's (So in this case, a vector with 30 0's and 70 1's)

```
function.sample1 <- function(vase){
  u = sample(vase,50,replace = TRUE, prob = NULL);

  reds = length(u[u<1]);
  whites = length(u[u>0]);
```

```
    fractions = c(reds/50, whites/50);
    return(fractions);
}
```

b)
```
function.sample2 <- function(n = 10, mr = 30, mw = 70){
      redBalls = rep(0,mr)
      whiteBalls = rep(1,mw)
      vase = c(redBalls,whiteBalls)

      u = sample(vase,n,replace = TRUE, prob = NULL);

      reds = length(u[u<1]);
      whites = length(u[u>0]);

      fractions = c(reds/n, whites/n);
      return(fractions);
    }
```

c)
```
function.sample3 <- function(){
 x = 1:200;
 for (i in 1:200) {
   u = sample(1:90,40, prob = NULL);
   x[i] = median(u);
 }
 return(u);
}
```