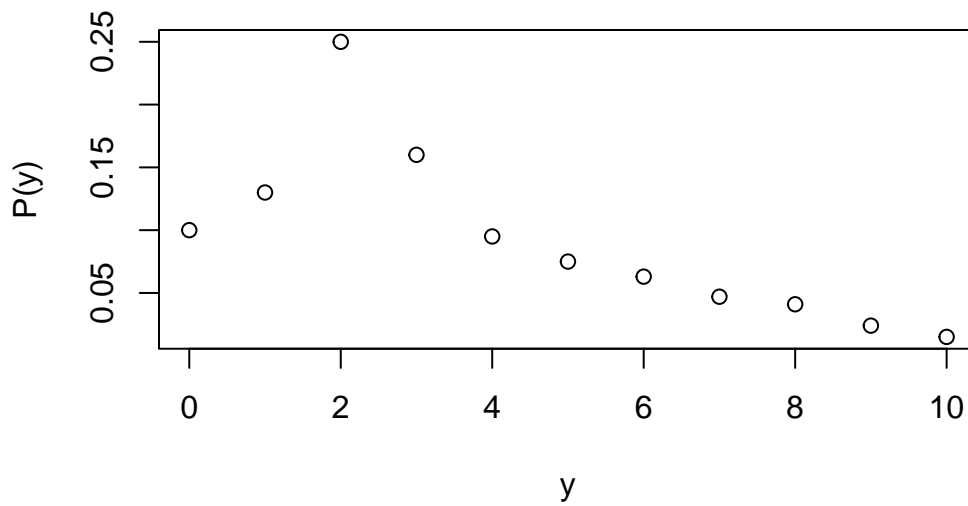


Homework 6

4.40

a.

```
# The file in Google Drive had the wrong values so I did them by hand.  
values = data.frame("y"= c(0,1,2,3,4,5,6,7,8,9,10),  
                    "P(y)" = c(0.100,0.130,0.250,0.160, .095, .075, .063, .047, .041, .024,  
plot.default(values, xlab = "y", ylab = "P(y)")
```



b. $P(y \leq 2)$

```
# Index starts at 1, this gets values y = 0, 1, and 2
b = values$P.y.[1] + values$P.y.[2] + values$P.y.[3]
b
```

```
[1] 0.48
```

c. $P(y > 7)$

```
c = values$P.y.[9] + values$P.y.[10] + values$P.y.[11]
c
```

```
[1] 0.08
```

d. $P(2 < y \leq 7)$

```
d = values$P.y.[4] + values$P.y.[5] + values$P.y.[6] + values$P.y.[7] + values$P.y.[8]
d
```

```
[1] 0.44
```

4.45

a.

```
a = dbinom(15, 15, .2)
a
```

```
[1] 3.2768e-11
```

b.

```
b = dbinom(6, 15, .2)
b
```

```
[1] 0.04299262
```

c.

```
c = sum(dbinom(6:15, 15, .2))  
c
```

```
[1] 0.06105143
```

d.

```
d = dbinom(0, 15, .2)  
d
```

```
[1] 0.03518437
```

4.46

a.

```
a = dbinom(20,20,.85)  
a
```

```
[1] 0.03875953
```

b.

```
b = dbinom(6, 20, .05)  
b
```

```
[1] 0.0002953482
```

c.

```
c = sum(dbinom(6:20, 20, .5))  
c
```

```
[1] 0.9793053
```

d.

```
d = dbinom(0, 20, .85)
d
```

```
[1] 3.325257e-17
```

4.48

a.

```
a = sum(dbinom(5:50, 50, .1))
a
```

```
[1] 0.5688016
```

b. That all patients are infected independently and they all have the same chance of getting infected.

4.111

a.

```
a = dbinom(0, 12, 1/8)
a
```

```
[1] 0.2014172
```

b.

```
b = sum(dbinom(2:12, 12, 1/8))
b
```

```
[1] 0.4532961
```

c.

```
c = sum(dbinom(0:4, 12, 1/8))
c
```

```
[1] 0.9887145
```

4.112

```
a = sum(dbinom(251:260, 260, .95))  
a
```

```
[1] 0.1590758
```