

## 606\_Presentation

### R Markdown

An airline charges the following baggage fees: \$25 for the first bag and \$35 for the second. Suppose 54% of passengers have no checked luggage, 34% have one piece of checked luggage and 12% have two pieces. We suppose a negligible portion of people check more than two bags.

- (a) Build a probability model, compute the average revenue per passenger, and compute the corresponding standard deviation.

```
Airlineevent<-data.frame("Bag_Count"= c(0,1,2),
                        "Baggage_Fee" = c(0,25,35),
                        "Percent_Passengers" = c(0.54,0.34,0.12))
```

```
Airlineevent
```

```
##   Bag_Count Baggage_Fee Percent_Passengers
## 1         0          0             0.54
## 2         1         25             0.34
## 3         2         35             0.12
```

```
Revenue_per_Pas <- sum(Airlineevent$Baggage_Fee*Airlineevent$Percent_Passengers)
print(Revenue_per_Pas)
```

```
## [1] 12.7
```

```
Revenue_Variance<-sum(Airlineevent$Percent_Passengers*(Airlineevent$Baggage_Fee- Revenue_per_Pas)^2)
```

```
Revenue_Stdev<-sqrt(Revenue_Variance)
```

```
print(Revenue_Stdev)
```

```
## [1] 14.07871
```

- (b) About how much revenue should the airline expect for a ight of 120 passengers? With what standard deviation? Note any assumptions you make and if you think they are justified.

```
num_Pas<-120
estimated_revenue <- num_Pas*Revenue_per_Pas
print(estimated_revenue)
```

```
## [1] 1524
```

```
estimated_deviation<- sqrt(Revenue_Variance*num_Pas)
print(estimated_deviation)
```

```
## [1] 154.2245
```