

Dices.Rmd

SuperNopest

7 mars 2017

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
dice <- function(faces=6,n=100)
{
  sample(x= seq(from=1, to=faces,by=1),size = n, replace= TRUE);
}

dice (6,25)
```

```
## [1] 1 6 5 1 2 3 2 6 2 2 3 2 3 3 6 2 3 6 4 6 6 6 2 1 4
```

Experience du Duc de Toscane on génère un échantillon de n observations de jets de 3 dés.

```
experiment <- function (faces=6,n=100)
{
  dice1 <- dice(faces,n)
  dice2 <- dice(faces,n)
  dice3 <- dice(faces,n)

  data.frame(Dice1 = dice1,Dice2 = dice2,Dice3 = dice3, Somme =(dice1+dice2+dice3));
}

experiment(6,1000000) %>%
  mutate(Sum = Dice1 + Dice2+ Dice3)%>%

  group_by(Sum)%>%
  summarize(N=n());
```

```
## # A tibble: 16 × 2
##   Sum      N
##   <dbl> <int>
## 1     3  4544
## 2     4 14056
## 3     5 27859
## 4     6 46198
## 5     7 69467
## 6     8 97005
## 7     9 115637
## 8    10 125346
## 9    11 124441
## 10    12 115979
## 11    13 97644
```

```
## 12    14  69435
## 13    15  46220
## 14    16  27683
## 15    17  13875
## 16    18   4611
```

Calcule le nombre d'occurrences de chaque valeur possible de la somme

```
experiment(6,100000) %>%
  mutate(Sum = Dice1 + Dice2+ Dice3)%>%
  ggplot(aes(x=as.factor(Sum)))+ geom_bar(aes(y=(..count..)/sum(..count..)),width=.3)+ylim(0,NA)+theme_l
```

```
## Warning in grid.Call(L_stringMetric, as.graphicsAnnot(x$label)): taille de
## police inconnue pour le caractère 0x17
```

```
## Warning in grid.Call(L_stringMetric, as.graphicsAnnot(x$label)): taille de
## police inconnue pour le caractère 0x17
```

