Paul Kogan-HW1

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```
if (!require("pacman")) install.packages("pacman")
pacman::p_load(ISwR, random)
options(warn = -1)
```

1

```
height <- c(1.55, 1.92, 1.60, 1.75, 1.58, 1.67,
            1.63, 1.82, 1.76, 1.77, 1.72, 1.85)
cat("# For best results, set tab to 4 spaces #\n\nQ1:\t1)\t",
    mean(height), "\n\t2)\t", sd(height), "\n\t3)\t", length(height),
    "\n\t4)\t", sum(height < 1.65), "\n\t5)\t ")
```

```
## # For best results, set tab to 4 spaces #
##
## Q1:  1)   1.718333
##  2)   0.1149572
##  3)   12
##  4)   4
##  5)
```

```
data.frame(height, c(height > 1.6 & height < 1.75))
```

```
##    height c.height...1.6...height...1.75.
## 1    1.55                           FALSE
## 2    1.92                           FALSE
## 3    1.60                           FALSE
## 4    1.75                           FALSE
## 5    1.58                           FALSE
## 6    1.67                            TRUE
## 7    1.63                            TRUE
## 8    1.82                           FALSE
## 9    1.76                           FALSE
## 10   1.77                           FALSE
## 11   1.72                            TRUE
## 12   1.85                           FALSE
```

2

```
tmp <- matrix(rnorm(12), 3, 4)
cat("Q2:\t1)\t", sum(rowSums(tmp)[-1]), "\n\t2)\t",
    prod(colSums(tmp)[c(2, 4)]), "\n\t3)\t", dim(tmp), "\n\t4)\t",
    c((less <- tmp[2, ])[less < 0.2]), "\n\n")
```

```
## Q2:  1)   -0.2639373
##  2)   0.3985356
##  3)   3 4
##  4)   -0.5835012 -0.9518379
```

3

```
library(ISwR)
cat("Q3:\t1)\t\t")
```

```
## Q3:  1)
```

```
subset(thuesen, blood.glucose > 10 & short.velocity > 1.5)
```

```
##    blood.glucose short.velocity
## 1           15.3           1.76
## 13          19.0           1.95
```

4

```
library(random)
cat("Q4:\t1)\t", randomNumbers(15, 0, 81),
    "\n\n")
```

```
## Q4:  1)   31 4 74 60 67 9 34 28 18 28 58 50 5 60 41
```

5

```
prb <- c(0.2, 0.3, 0.5)
len <- length(prb)
rnd <- randomNumbers(1, len, 10^2, 1)
amt <- as.integer(rnd / len)
cat("Q5:\t1)\t", sample(sample(rnd, len), amt, TRUE, prb), "\n\t2)\t",
    rmultinom(amt, rnd, prb))
```

```
## Q5:  1)   52 22 52 62 22 22 22 52 22 22 22 52 22 22 62 52 22 22 52 52 52 62 52 22 62 52 22 62 22
##  2)   15 31 43 15 23 51 27 27 35 19 30 40 17 32 40 16 25 48 18 24 47 18 24 47 21 27 41 15 30 44 16 19
```