Powerball TICKET (1,2,3,4,5,+6)

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WHY POWERBALL TICKET (1,2,3,4,5,+6) HAS THE SAME ODDS AS A QUICKPICK

This is a simple powerball simulater representing many games played over a lifetime, where player 1 bought the same ticket (1,2,3,4,5,+6) and player 2 bought a quickpick. Assuming both players played powerball about once a week for 100 years (52*100=5200). Meaning player 1 played the same ticket (1,2,3,4,5,+6) and player 2 played random numbers every game. (http://www.powerball.com/pb_home.asp).
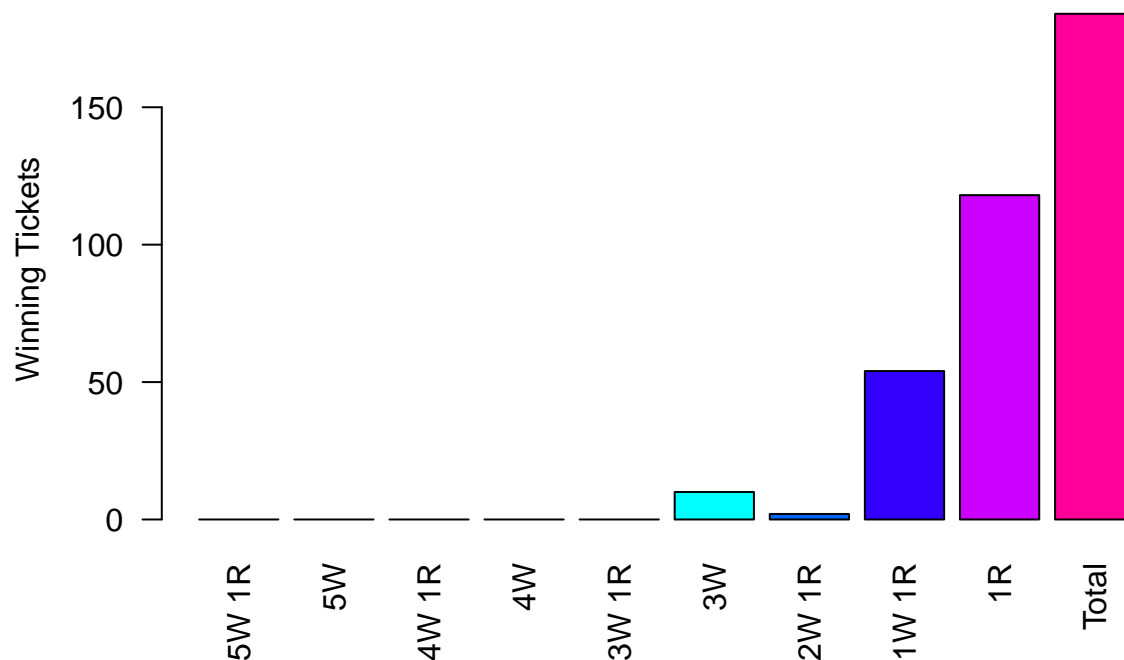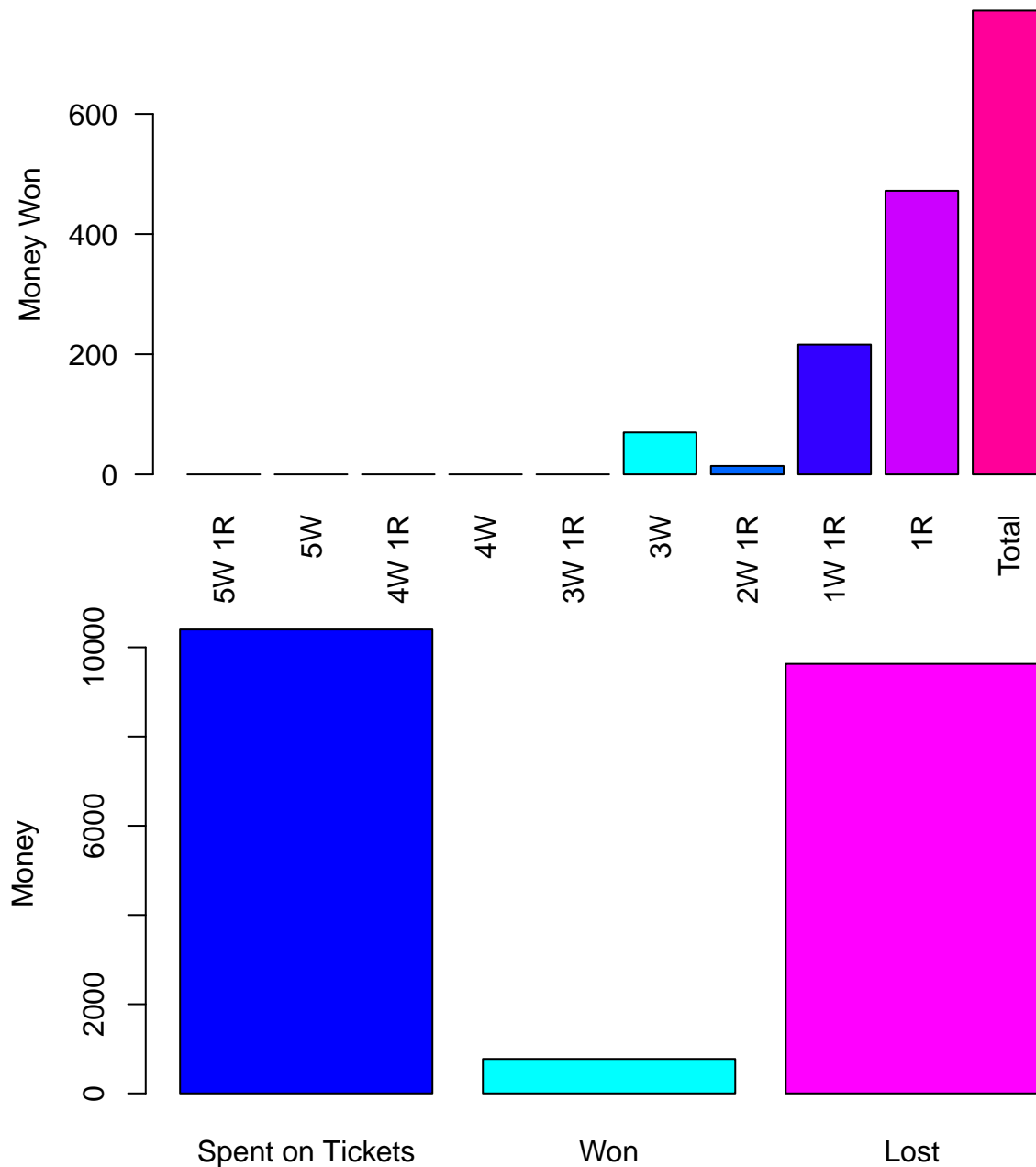
Player 1

Grand Prize

60000000

Games Played

5200

Player 1 Winning Tickets

Player 1 Ticket Winnings

Money Won

600

400

200

0

5W 1R   5W   4W 1R   4W   3W 1R   3W   2W 1R   1W 1R   1R   Total

Money

10000

6000

2000

0

Spent on Tickets   Won   Lost

Best Ticket

[1] "Your best ticket had 2 Whites + Powerball Matched ($7)"

Player 1 Summary

```
## In your lifetime you spent $ 10400 and won $ 772
##  From the 5200 tickets you purchased 184 tickets were winners.
##  You lost $ 9628 (if negative you won!!).
##
##  You got 5 White + Powerball    0 time(s).
```

```
##  You got 5 White              0 time(s).
##  You got 4 White + Powerball  0 time(s).
##  You got 4 White              0 time(s),
##  You got 3 White + Powerball  0 time(s).
##  You got 3 White              10 time(s),
##  You got 2 White + Powerball  2 time(s).
##  You got 1 White + Powerball  54 time(s).
##  You got Powerball            118 time(s).
```
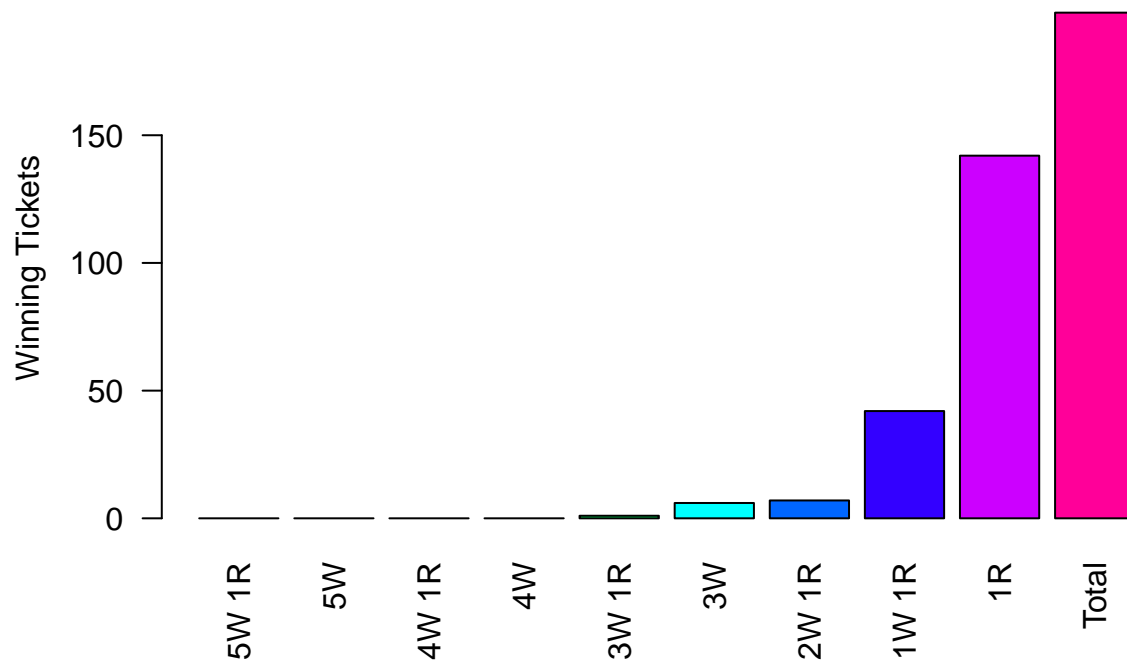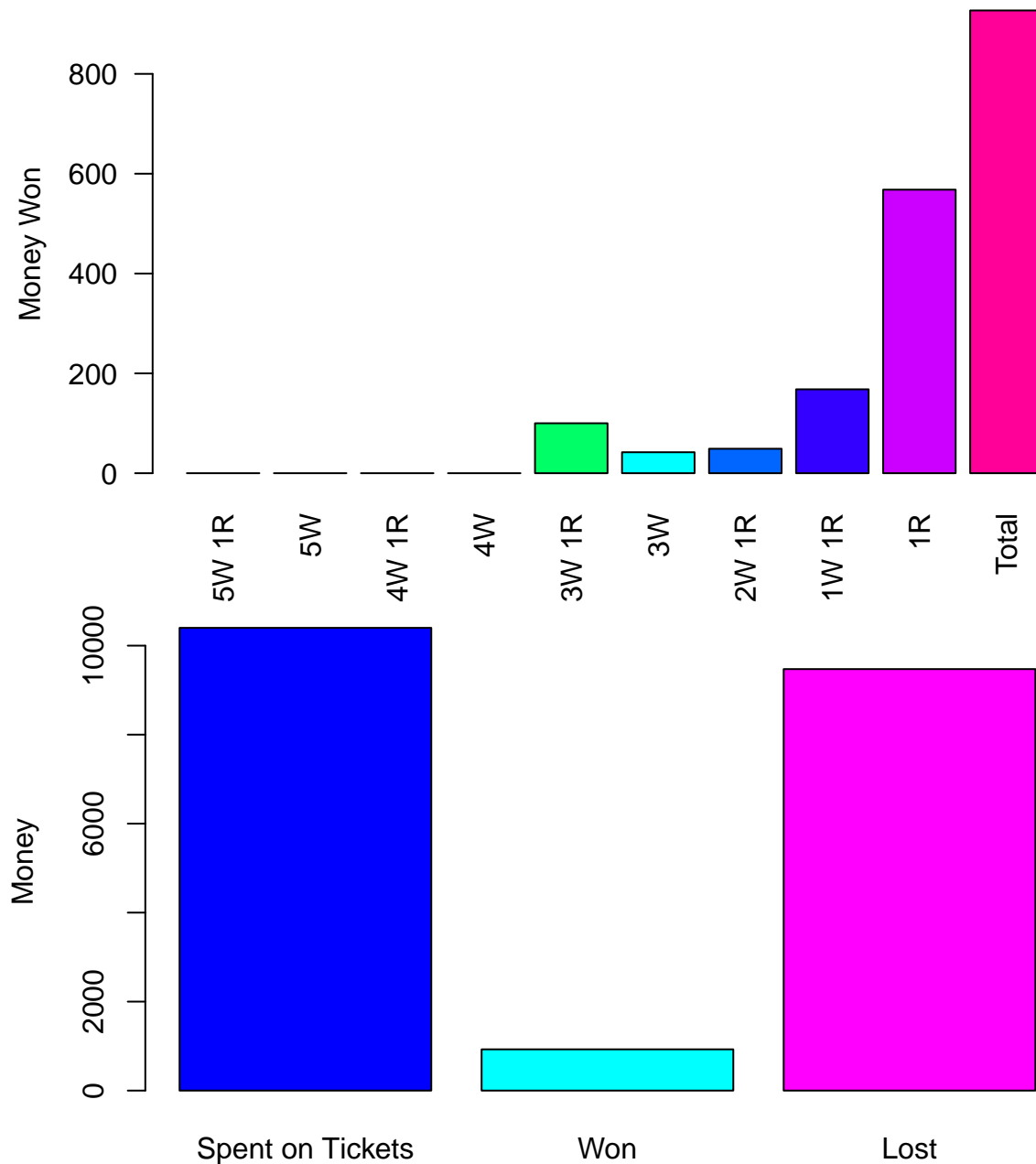
Player 2

Grand Prize

60000000

Games Played

5200

Player 2 Winning Tickets

Player 2 Ticket Winnings

Money Won

800

600

400

200

0

5W 1R   5W   4W 1R   4W   3W 1R   3W   2W 1R   1W 1R   1R   Total

Money

10000

6000

2000

0

Spent on Tickets   Won   Lost

Best Ticket

```
## [1] "Your best ticket had  3 Whites + Powerball Matched ($100)"
```
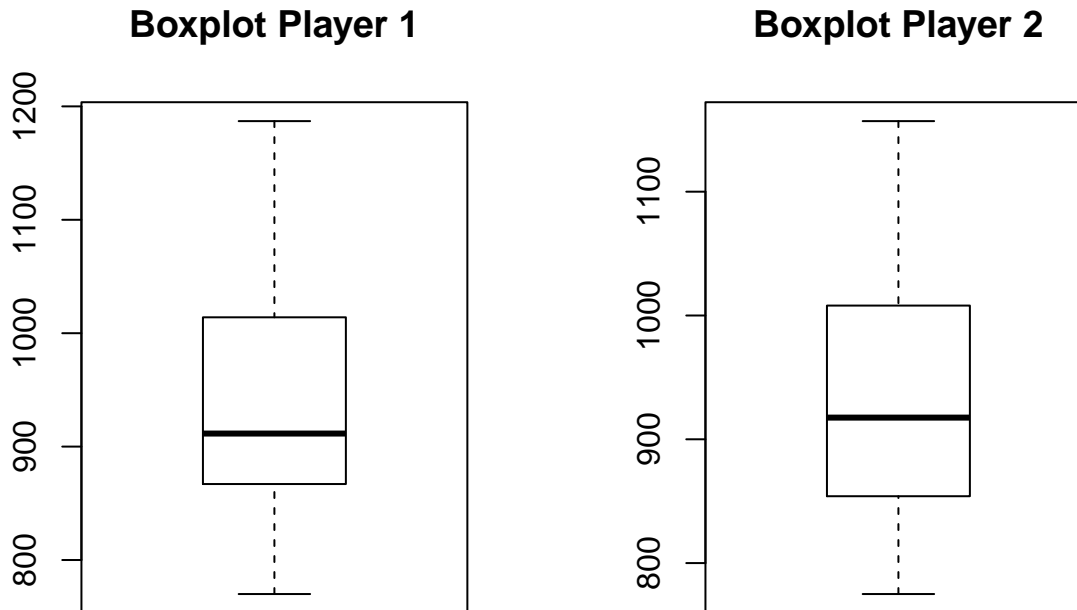
Player 2 Summary

```
## In your lifetime you spent $ 10400 and won $ 927
##  From the 5200 tickets you purchased 198 tickets were winners.
##  You lost $ 9473 (if negative you won!!).
##
##  You got 5 White + Powerball    0 time(s).
```

```
##  You got 5 White                0 time(s).
##  You got 4 White + Powerball    0 time(s).
##  You got 4 White                0 time(s),
##  You got 3 White + Powerball    1 time(s).
##  You got 3 White                6 time(s),
##  You got 2 White + Powerball    7 time(s).
##  You got 1 White + Powerball    42 time(s).
##  You got Powerball              142 time(s).
```

Boxplots Median Lifetime Winnings

The simulation was run 50 times for each player.

Boxplot Player 1

Boxplot Player 2

Summary for Player 1

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   770.0   867.5   911.5   940.0  1010.0  1187.0
```

Summary for Player 2

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   775.0   855.0   917.5   938.0  1007.0  1328.0
```

T-Test

```
##
##  Welch Two Sample t-test
##
## data:  winnings1 and winnings2
## t = 0.088726, df = 96.812, p-value = 0.9295
```

```
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -41.88442  45.80442
## sample estimates:
## mean of x mean of y
##    940.00    938.04
```