

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 simulator 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 ($52 \times 100 = 5200$). 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

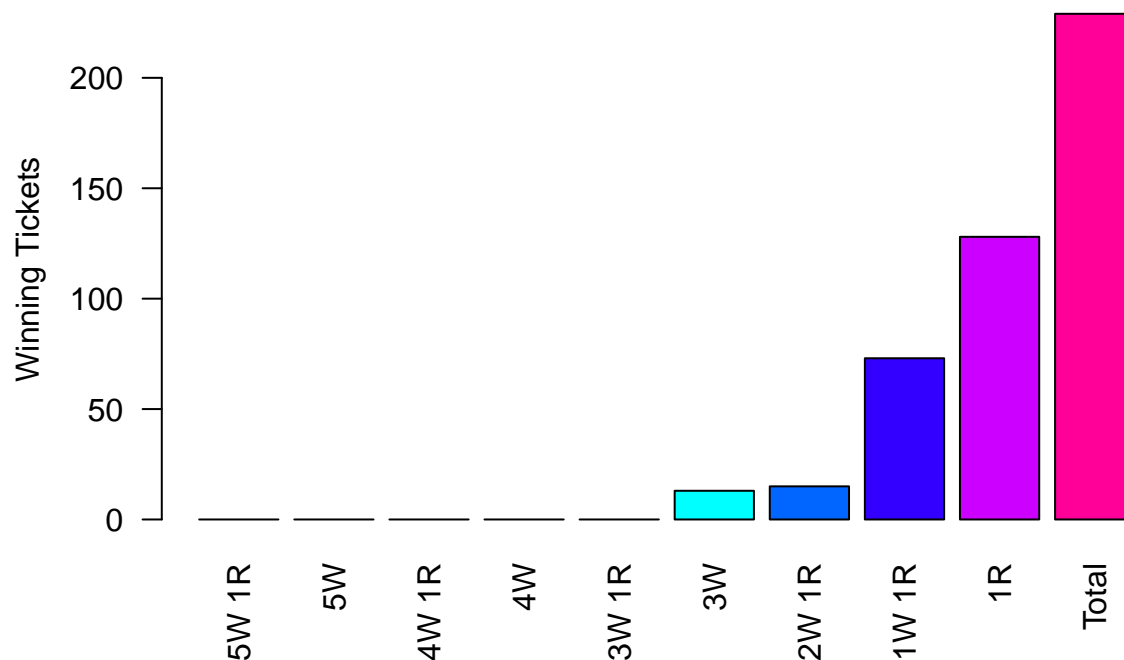
Grand Prize

60000000

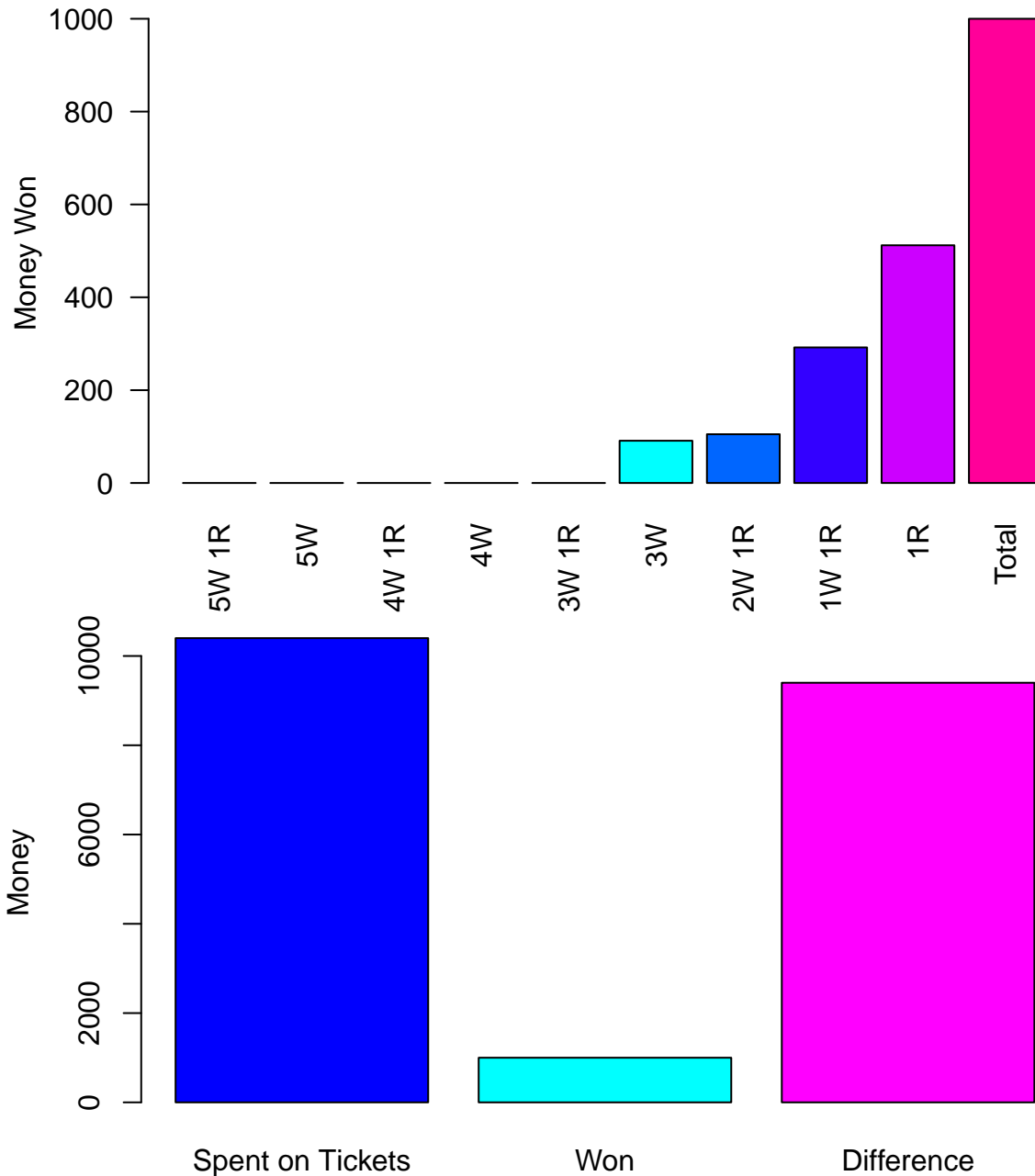
Games Played

5200

5200 Lottery Tickets



5200 Lottery Tickets



Best Ticket

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

Player 1 Summary

```
## In your lifetime you spent $ 10400 and won $ 1000
## From the 5200 tickets you purchased 229 tickets were winners.
## You lost $ 9400 (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           13 time(s),
## You got 2 White + Powerball 15 time(s).
## You got 1 White + Powerball 73 time(s).
## You got Powerball         128 time(s).
```

Player 2

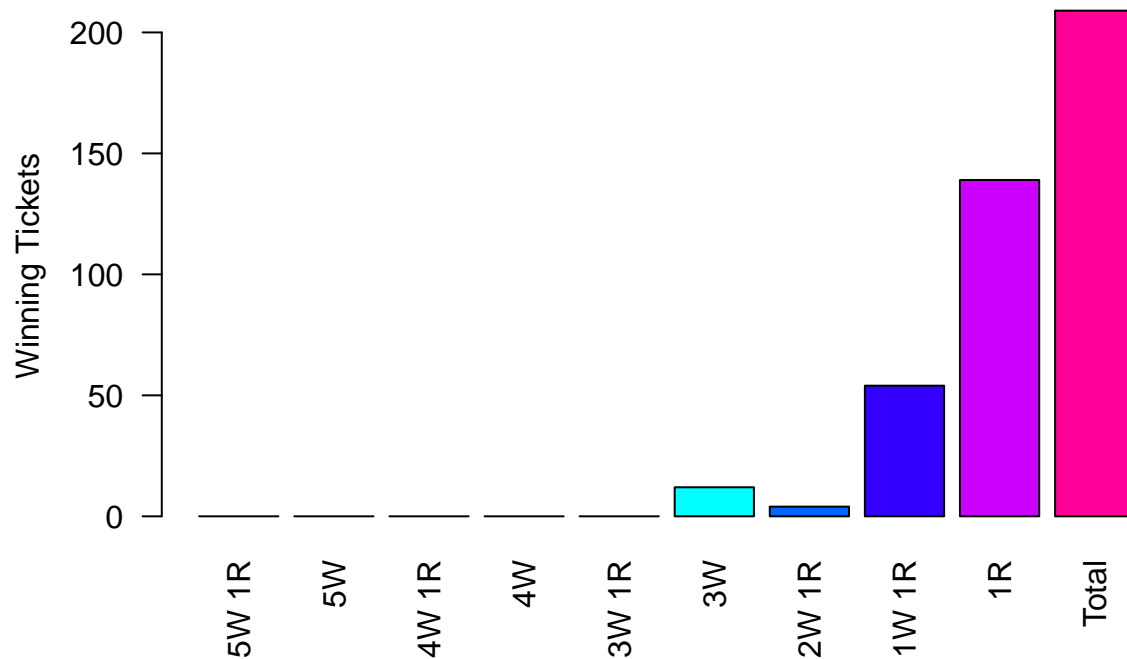
Grand Prize

60000000

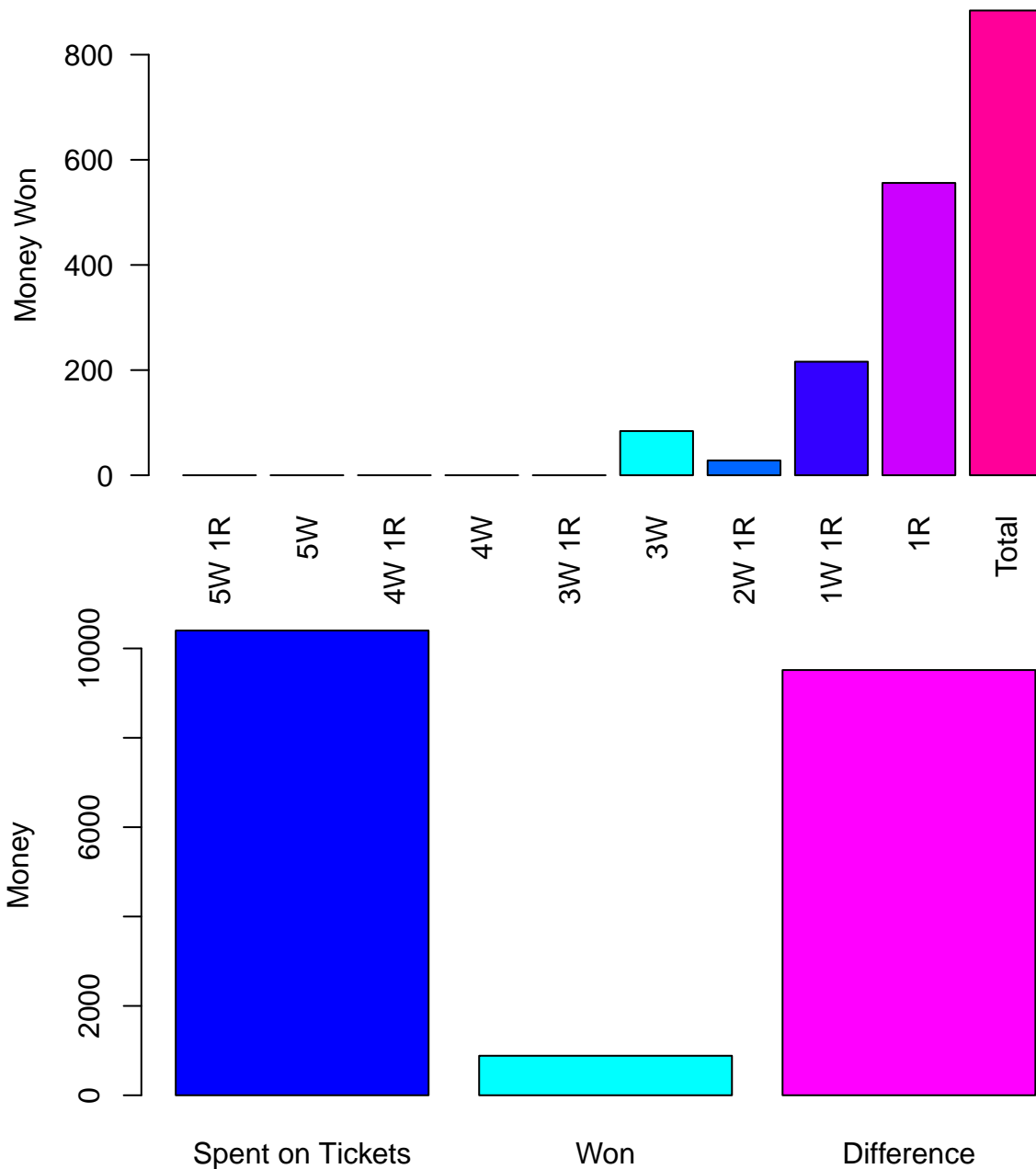
Games Played

5200

5200 Lottery Tickets



5200 Lottery Tickets



Best Ticket

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

Player 2 Summary

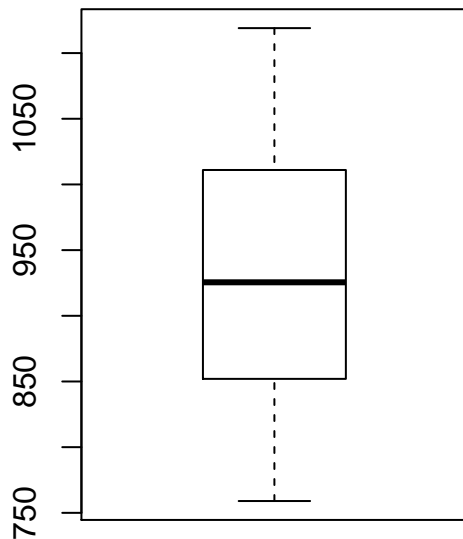
```
## In your lifetime you spent $ 10400 and won $ 884
## From the 5200 tickets you purchased 209 tickets were winners.
## You lost $ 9516 (if negative you won!!).
##
## You got 5 White + Powerball 0 time(s).
```

```
## 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 12 time(s),
## You got 2 White + Powerball 4 time(s).
## You got 1 White + Powerball 54 time(s).
## You got Powerball 139 time(s).
```

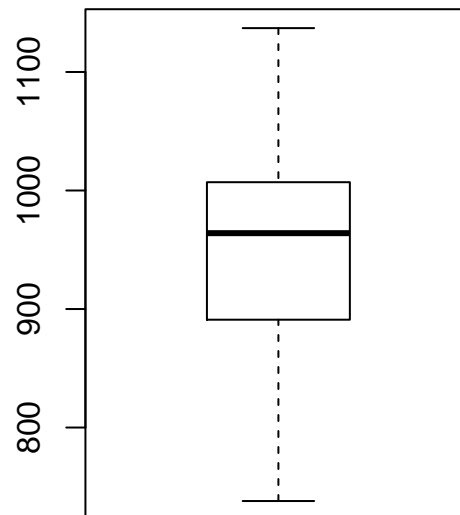
Boxplots Median Lifetime Winnings

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.
##  759.0   852.8   925.5   938.5  1011.0  1283.0
```

Summary for Player 2

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##  738.0   892.8   964.0   953.5  1005.0  1137.0
```

T-Test

```
##
## Welch Two Sample t-test
##
## data:  winnings1 and winnings2
```

```
## t = -0.78449, df = 96.324, p-value = 0.4347
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -52.88203  22.92203
## sample estimates:
## mean of x mean of y
##    938.48    953.46
```