

Bits that Alice, Bob  
and Cara send

```
> A <- c(1,1,1,1,1,1,1,1,1)
> B <- c(1,-1,1,-1,-1,1,-1,1)
> C <- c(-1, 1, 1, -1, 1, -1, -1, 1)
> T <- A+B+C
> T
[1] 1 1 3 -1 1 1 -1 3
> Ac <- c(1,1,1,1)
> Cc <- c(1,-1,-1,1)
> Cc1 <- c(Cc, Cc)
> Cc1
[1] 1 -1 -1 1 1 -1 -1 1
> Rsig <- T*Cc1
> Rsig
[1] 1 -1 -3 -1 1 -1 1 3
> sum(Rsig[1:4])
[1] -4
> sum(Rsig[5:8])
[1] 4
> |
```

Transmitted

Alice's Code

Cara's Code

Cara's Code replicated

Correlation at receiver

Summing four chips and finding the sign to discover what bits Cara sent