# Java Week 20

%A is ONE or ZERO

ZERO = [1;0];

ONE = [0;1];

Hadamard = (1/sqrt(2))\*[1,1;1,-1];

%Hadamard \* ONE = B1

B1 =[0.7071

-0.7071];

%Hadamard \* ZERO = B0

B0 =[0.7071

0.7071];

%State C is either of the below

%Hadamard \* B1 = ONE

%Hadamard \* B0 = ZERO

%If either are these are run through a Hadamard gate twice they return to

%their original value

%If someone was using probabilities it would be less accurate although

%easier, it would start 100% ONE or ZERO, then it'd be 50% ONE or ZERO then

%be 100% ONE or ZERO again. whereas the matrix, you can follow whether

%it'll be either one as the B1 has a -0.7071 where as B0 does not.

%The probabilities make reversal impossible due to the loss of information