CDMA Multiple bit data

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C.Sys

1) Functions :

```
void mulEK (int  d[1000] , int k[1000] , int Ks, int ss[1000])
```
Take array of data and multiply it with array of key and save result return in ss array .

```
void XOR (int  d[1000] , int k[1000] , int ds, int ss[1000])
```
Take two arrays and XOR them in SS array .

```
void sumAB (int x , int A[1000] , int B[1000] , int AB[1000])
```
Take to arrays and sum them in one array .

```
void sum2( int ABK[1000] ,int DataSize, int sum[1000] , int data[1000] )
```
Summation the array ABK every 6 bit together and set the sum of them in sum array after that check the sum and assign data array based on the sum .

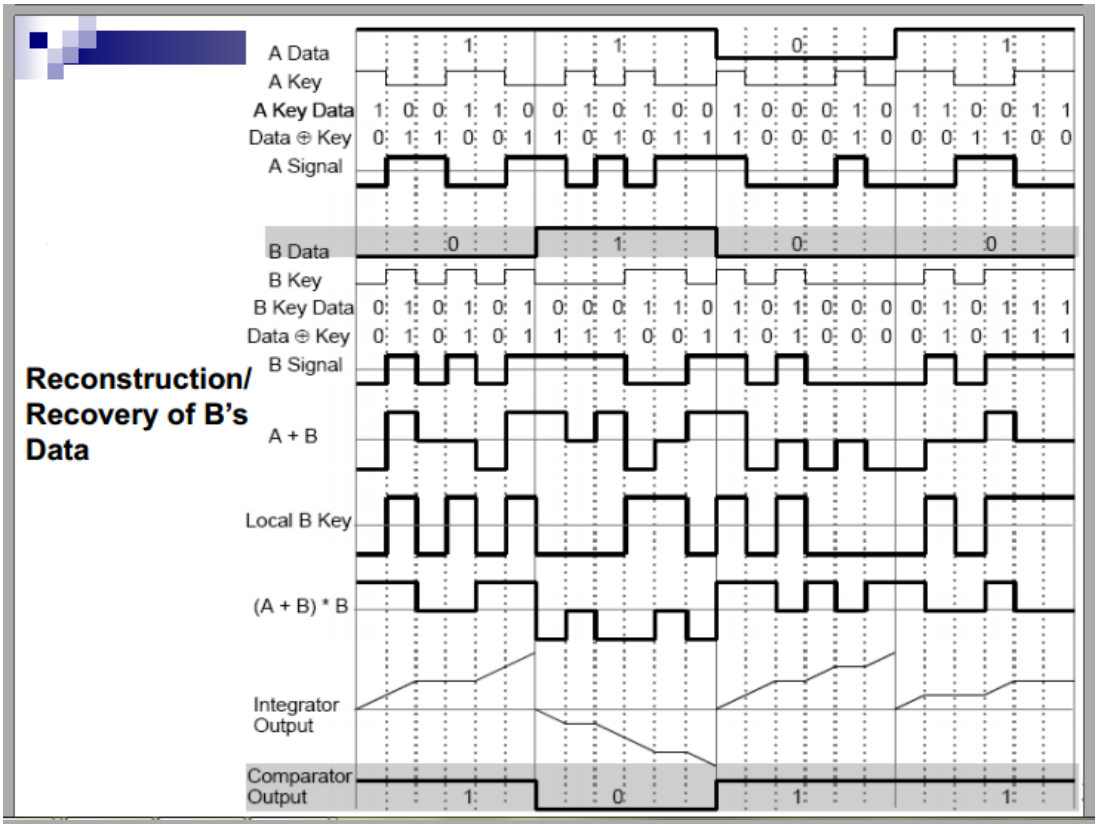
```
void assign (string S , int s0 , int s1 , int SS[1000])
```
Take string and mapped it with value of 0 and 1 and return result in SS array.

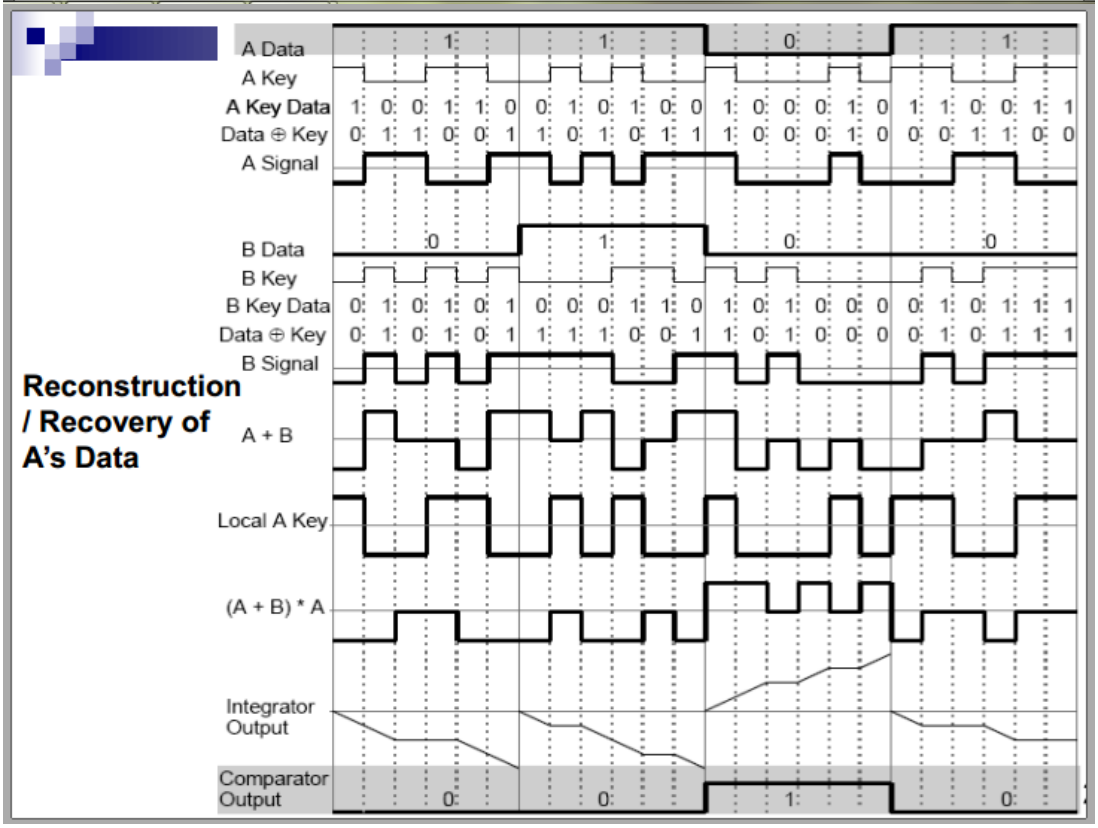
```
void assign2 (int S[1000] , int xs , int s0 , int s1 , int SS[1000])
```
Take array of integer and mapped it with value of 0 and 1 and return result in SS array.

```
void printarr(int x , int X[1000])
```
to print array on console to test .

```
int main ()
```
the main function take input from user and use above function to solve CDMA.

2) Example :


A Data
A Key
A Key Data
Data ⊕ Key
A Signal
B Data
B Key
B Key Data
Data ⊕ Key
B Signal
Reconstruction/ Recovery of B's Data
A + B
Local B Key
(A + B) * B
Integrator Output
Comparator Output


A Data
A Key
A Key Data
Data ⊕ Key
A Signal
B Data
B Key
B Key Data
Data ⊕ Key
B Signal
Reconstruction / Recovery of A's Data
A + B
Local A Key
(A + B) * A
Integrator Output
Comparator Output


C:\Windows\system32\cmd.exe
Sender A :
Enter the value of 0 and 1
-1
1
Enter Ak
10011001010010010110011
Enter Ad
1101
Sender B :
Enter the value of 0 and 1
-1
1
Enter Bk
01010100011010100010111
Enter Bd
0100
Both signals superimpose in space
As + Bs = -2 2 0 0 -2 2 2 0 2 -2 0 2 2 -2 0 -2 0 -2 -2 0 0 2 0 0
Receive signal from sender A :
Ae[0] = -8
Original bit was 1
Ae[1] = -8
Original bit was 1
Ae[2] = 8
Original bit was 0
Ae[3] = -4
Original bit was 1
Receive signal from sender B :
Be[0] = 8
Original bit was 0
Be[1] = -8
Original bit was 1
Be[2] = 8
Original bit was 0
Be[3] = 4
Original bit was 0
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