```
import random

k=random.getrandbits(128)
m=random.getrandbits(128)
kb=bin(k)[2:]
mb=bin(m)[2:]
kbl=kb[0:64]
kbr=kb[64:]
mbl=mb[0:64]
mbr=mb[64:]
a1=int(kbl,2)^int(mbr,2)
a2=int(kbr,2)^int(mbl,2)
a3=a1^a2
a4=bin(a3)[2:].zfill(64)
a5=a4[0:32]
a6=a4[32:]
a7=int(a5,2)^int(a6,2)
print("128 Bit Key = ",kb)
print("128 Random Bits Generated = ",mb)
print("RES/SRES = ",bin(a7)[2:].zfill(len(a5)))
```

```
128 Bit Key =  10000101000011010100110001000011110110000010101100000110010111011110010011001000010110110111011011001000100100100111110100011
128 Random Bits Generated =  10100110011111001011101101001110000100111100110111010000001011000101111100011101111001111100001001101000111110110011011001
1000
RES/SRES =  00100101011111010111001010000110
```

```
import numpy as np
c1=[1,1,1,1]
c2=[1,-1,1,-1]
c3=[1,1,-1,-1]
c4=[1,-1,-1,1]
rc=[]

print("Enter the data bits :")

d1=int(input("Enter D1 :"))
d2=int(input("Enter D2 :"))
d3=int(input("Enter D3 :"))
d4=int(input("Enter D4 :"))
r1=np.multiply(c1,d1)
r2=np.multiply(c2,d2)
r3=np.multiply(c3,d3)
r4=np.multiply(c4,d4)
resultant_channel=r1+r2+r3+r4;
print("Resultant Channel",resultant_channel)
Channel=int(input("Enter  the station to listen for C1=1 ,C2=2, C3=3 C4=4 : "))

if Channel==1:
  rc=c1
elif Channel==2:
  rc=c2
elif Channel==3:
  rc=c3
elif Channel==4:
  rc=c4
inner_product = np.multiply(resultant_channel,rc)

print("Inner Product",inner_product)
res1=sum(inner_product)

data = res1/len(inner_product)
print("Data bit that was sent",data)
```