

Experiment 6

GSM A3

```
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 =  11001101001110000010010100011111111001000000111100111011010100001001001000110011000010110100100
128 Random Bits Generated =  111000010111110101101101000111001001001100001001111100111110110010010001110100010
RES/SRES =  00000100001101011010010111111010
```