```matlab
clear
clc

encodedMessage = [
    [25, -33, -53],;
    [27, -31, -84],;
    [8, -23, 40],;
    [-15, 15, 44],;
    [6, -31, 107],;
    [15, -30, 24]
];

knownKey = [
    [-4 -4 -4],;
    [-4 -4 -4],;
    [-4 -4 -4]
];
keySize = length(knownKey);
depth = 4;
x = keySize ^ 2;

testKey(knownKey,encodedMessage);
while x > 0
    value = knownKey(x);
    if value >= depth
        knownKey(x) = -depth;
        x = x - 1;
    else
        knownKey(x) = value + 1;
        testKey(knownKey,encodedMessage);
        x = keySize ^ 2;
    end
end
```

Key
```
    -1      1      3
     1     -2      2
     1     -1     -4
```

Inverse
```
   -10     -1     -8
    -6     -1     -5
    -1      0     -1
```

Message
AHR DWROKP ASY FOF
~~~~~~
Key
```
    -1      1      3
     1     -1     -4
     1     -2      2
```

```
Inverse
    -10     -8     -1
     -6     -5     -1
     -1     -1      0

Message
ARH WDRKOPA S YFFO
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Key
      1     -2      2
     -1      1      3
      1     -1     -4

Inverse
     -1    -10     -8
     -1     -6     -5
      0     -1     -1

Message
HARD WORK PAYS OFF
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Key
      1     -1     -4
     -1      1      3
      1     -2      2

Inverse
     -8    -10     -1
     -5     -6     -1
     -1     -1      0

Message
RAHW DKROAP  SYFFO
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Key
      1     -2      2
      1     -1     -4
     -1      1      3

Inverse
     -1     -8    -10
     -1     -5     -6
      0     -1     -1

Message
HRADW OKR APY SOFF
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Key
      1     -1     -4
      1     -2      2
     -1      1      3

Inverse
     -8     -1    -10
```

```
  -5    -1    -6
  -1     0    -1
```

Message
RHAWD KORA P YSFOF
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

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