

### 32 BIT COMPARATOR

first input : a <= 32'b00000000000000000000000000000000;

b <= 32'b10000000000000000000000000000000;

output:

a < b => 1

a == b => 0

a > b => 0

second input : a <= 32'b10000000000000000000000000000000;

b <= 32'b10000000000000000000000000000000;

output:

a < b => 0

a == b => 1

a > b => 0

third input: a <= 32'b10000000000000000000000000000000;

b <= 32'b00000000000000000000000000000001;

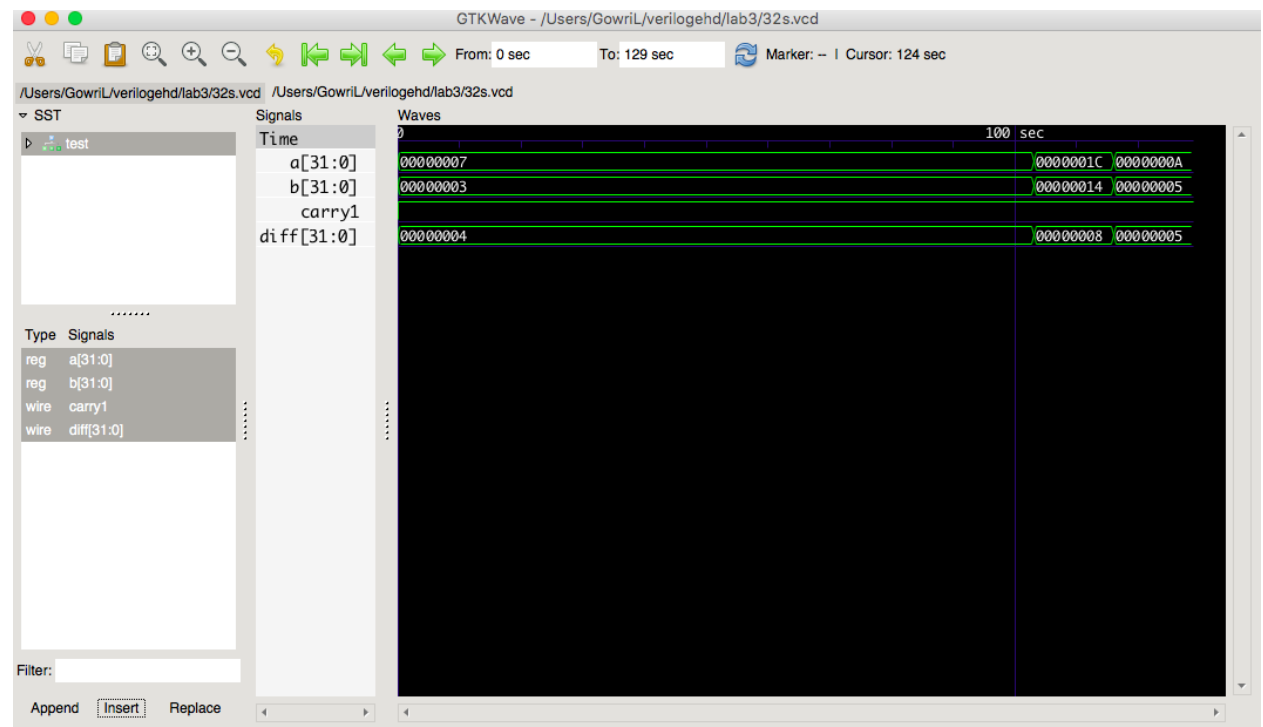
output:

a < b => 0

a == b => 0

a > b => 1

## 32 bit subtractor



```
first input:  a <= 32'b111;
              b <= 32'b11;
```

output: diff: 32b'100

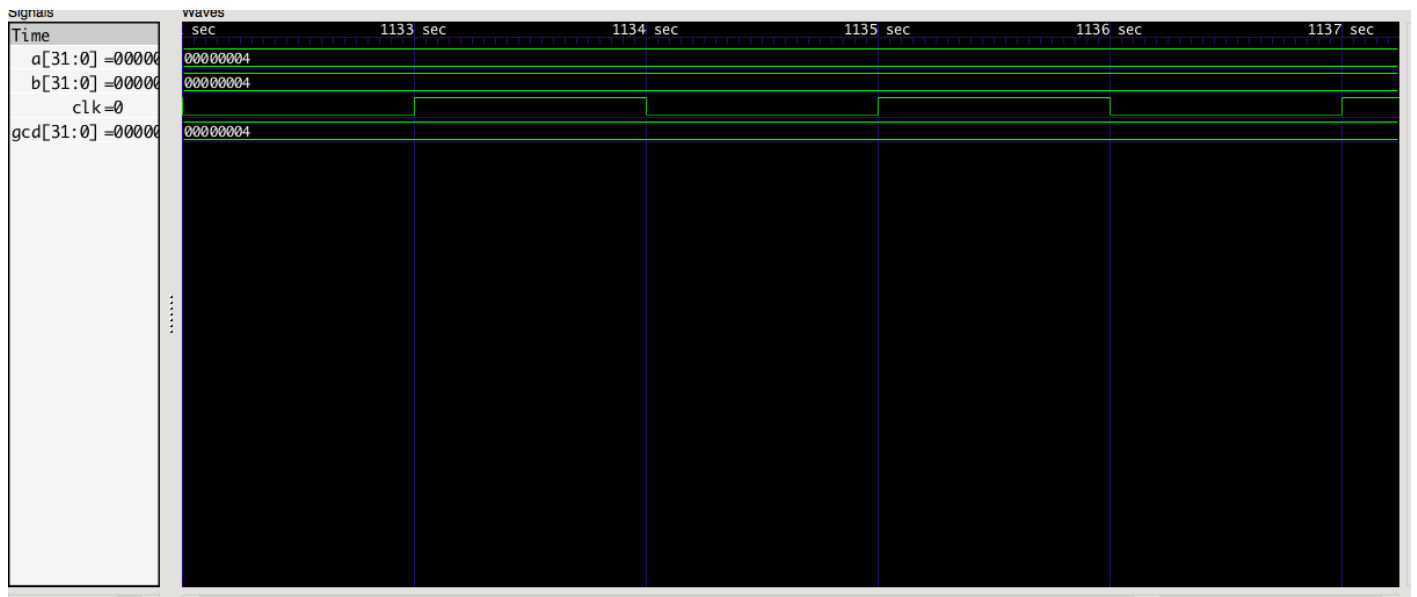
```
first input:  a <= 32'b11100;
               b <= 32'b10100;
```

```
output:      diff = 32'b1000
```

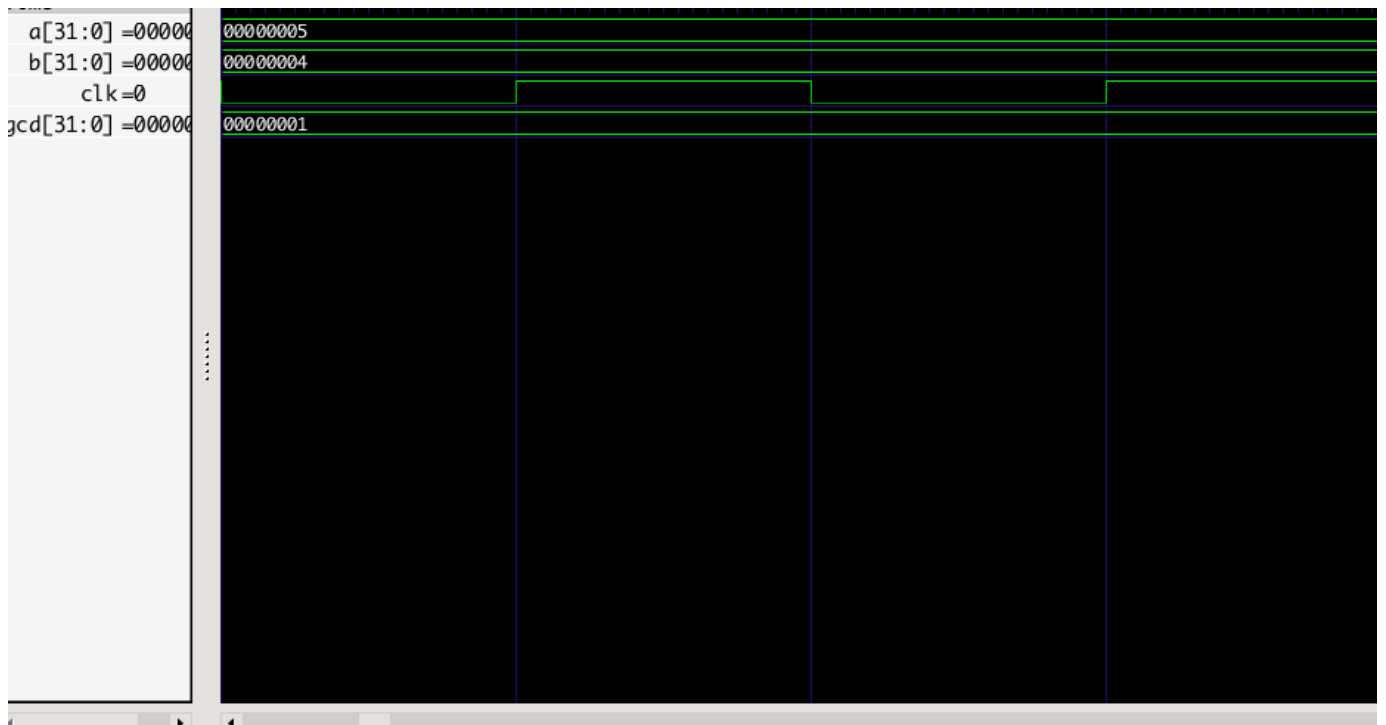
```
first input :  a <= 32'b000000000000000000000000000001010;
                b <= 32'b000000000000000000000000000000101;
```

```
output:      diff=32'b100
```

GCD:



First input: a <= 32'b100;  
              b <= 32'b100;  
Output:      32'b100



second input: a <= 32'b101;  
              b <= 32'b100;  
output:      32'b1

```
third input : a <=32'b100;  
              b <=32'b100;
```

```
output:      32'b100
```