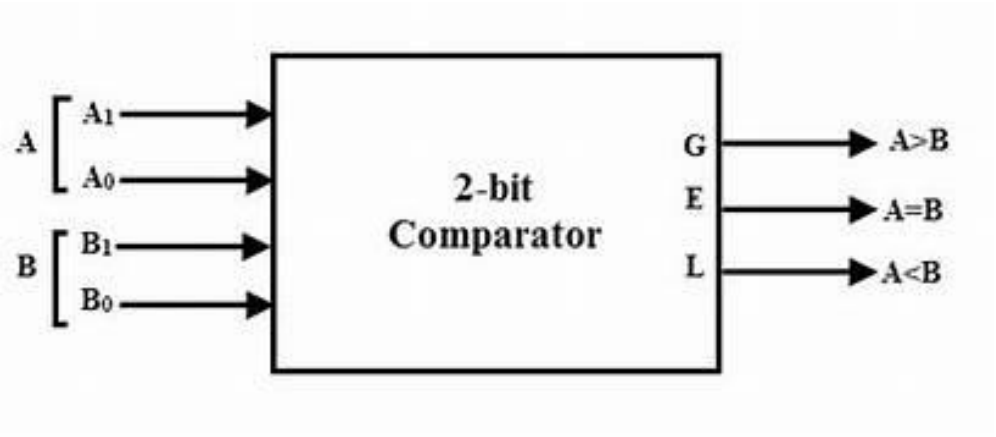
2 BIT-COMPARATOR

A comparator used to compare two binary numbers each of two bits is called a 2-bit Magnitude comparator. It consists of four inputs and three outputs to generate less than, equal to, and greater than between two binary numbers.



RTL CODE:

```
module ha(input [1:0]a,input [1:0]b,output g,output l,output e);
  assign e=(a==b)?1'b1:1'b0;
  assign g=(a>b)?1'b1:1'b0;
  assign l=(a<b)?1'b1:1'b0;
endmodule
```

TESTBENCH:

```
module test;
  reg [1:0]a;
  reg [1:0]b;
  wire g,l,e;
  ha h1(a,b,g,l,e);
  initial begin
```

```
    $dumpfile("dump.vcd");
    $dumpvars(1);
  end
  initial begin
    repeat(10) begin
      a=$random;b=$random;
      #10;
    end
  end
  initial begin
    #60 $finish();
  end
endmodule
```