

Module file:

```
module nandgate(A,B,C,F);  
input A,B,C;  
output F;  
assign F=~(A&B&C);  
endmodule
```

Test Bench:

```
module main;  
reg A,B,C;  
wire F;  
nandgate add(A,B,C,F);  
initial begin  
#10 A=0;B=0;C=0;  
#10 A=0;B=0;C=1;  
#10 A=0;B=1;C=0;  
#10 A=0;B=1;C=1;  
#10 A=1;B=0;C=0;  
#10 A=1;B=0;C=1;  
#10 A=1;B=1;C=0;  
#10 A=1;B=1;C=1;  
end  
initial begin  
$monitor("time=%d,A=%b,B=%b,C=%b,F=%b\n",$time,A,B,C,F);  
end  
endmodule
```

Output:

```
time=          0,A=x,B=x,C=x,F=x  
  
time=         10,A=0,B=0,C=0,F=1  
  
time=         20,A=0,B=0,C=1,F=1  
  
time=         30,A=0,B=1,C=0,F=1  
  
time=         40,A=0,B=1,C=1,F=1  
  
time=         50,A=1,B=0,C=0,F=1  
  
time=         60,A=1,B=0,C=1,F=1  
  
time=         70,A=1,B=1,C=0,F=1  
  
time=         80,A=1,B=1,C=1,F=0
```