

```
`timescale 1ns / 1ps
```

```
module Datapath_TB(
```

```
    );
```

```
    reg clk;
```

```
    reg reset;
```

```
//    wire [15:0] Next_PC;
```

```
//    wire [15:0] Current_Instr;
```

```
//    wire MemWrite;
```

```
//    wire MemRead;
```

```
//    wire signed [15:0] RR_Data;
```

```
//    wire signed [7:0] Concatenate;
```

```
//    wire signed [15:0] DataMem;
```

```
Datapath DUT(
```

```
    .clk(clk),
```

```
    .reset(reset)
```

```
    //, .Next_PC(Next_PC), .Current_Instr(Current_Instr)
```

```
//Useful for identifying what the next PC address is and current  
Instruction
```

```
//    , .MemWrite(MemWrite), .MemRead(MemRead) //,
```

```
.BranchCheck(BranchCheck), .ALU(ALU), .MemReg(MemReg)
```

```
//    , .RR_Data(RR_Data)
```

```
//    , .Concatenate(Concatenate)
```

```
//    , .DataMem(DataMem)
```

```
);
```

```
always
```

```
    #2 clk = ~clk;
```

```
initial
```

```
begin
```

```
    clk = 1;
```

```
    reset = 0;
```

```
    #2 reset = 1;
```

```
    end  
endmodule
```