26th Day

Inheritance

Code1

```
class parent;
  int a,b,c;
  function add();
    a=10;
    b=20;
    c=a+b;
  endfunction

  function display();
    $display("a=%0d,b=%0d,c=%0d",a,b,c);
  endfunction

endclass

class child extends parent;
endclass

module tb;
  initial
    begin
      child c=new();
      c.add;
      c.display();
    end
endmodule
```

Simulation

```
Chronologic VCS simulator copyright 1991-2023
Contains Synopsys proprietary information.
Compiler version U-2023.03-SP2_Full64; Runtime version U-2023.03-SP2_Full64;  Apr 13 09:26 2025
a=10,b=20,c=30
         V C S   S i m u l a t i o n   R e p o r t
Time: 0 ns
CPU Time:      0.420 seconds;        Data structure size:    0.0Mb
Sun Apr 13 09:26:17 2025
```

Code2

```
class parent;
  int length,breadth,peri;

  function perimeter();
   peri=2*(length+breadth);
   $display("\nperimeter of rectangle=%0d\n",peri);
  endfunction

endclass
```

```systemverilog
class child extends parent;

   int a;

   function area();
    a=length*breadth;
    $display("area of rectangle is %0d\n",a);
   endfunction

endclass


module tb;
 initial
   begin
    child c=new();
    c.length=20;
    c.breadth=10;
    c.perimeter;
    c.area;
   end
endmodule
```

Simulation

Compiler version U-2023.03-SP2_Full64; Runtime version U-2023.03-SP2_Full64; Apr 13 09:40 2025

perimeter of rectangle=60

area of rectangle is 200

        V C S   S i m u l a t i o n   R e p o r t
Time: 0 ns
CPU Time: 0.490 seconds;   Data structure size: 0.0Mb
Sun Apr 13 09:40:30 2025