

```
-- TESTROBOT.VHD --
```

```
library ieee;
use ieee.std_logic_1164.all;
```

```
entity testRobot is
end testRobot;
```

```
architecture test1 of testRobot is
  component Robot is
```

```
    port(reset, clk, athome, findfood, lostfood, closetofood,
          success, aboverestth, abovesearchth, scantimeup: in std_logic;
          rest, search, food: out std_logic);
```

```
  end component;
  signal r, clk, ah, f, l, c, s, arest, asearch, scan, re, se, fo : std_logic := '0';
begin
```

```
  A: Robot port map(r, clk, ah, f, l, c, s, arest, asearch, scan, re, se, fo);
```

```
  -- manage reset
```

```
  r <= '0', '1' after 44 ns, '0' after 45 ns, '1' after 84 ns, '0' after 85 ns, '1' after
144 ns, '0' after 145 ns,
  '1' after 224 ns, '0' after 225 ns, '1' after 324 ns, '0' after 325 ns, '1' after
444 ns, '0' after 445 ns, '1' after 584 ns, '0' after 585 ns,
  '1' after 684 ns, '0' after 685 ns, '1' after 804 ns, '0' after 805 ns, '1' after
904 ns, '0' after 905 ns, '1' after 984 ns, '0' after 985 ns,
  '1' after 1064 ns, '0' after 1065 ns, '1' after 1204 ns, '0' after 1205 ns, '1'
after 1340 ns, '0' after 1341 ns
, '1' after 1342 ns, '0' after 1343 ns;
```

```
  -- manage clock
```

```
  process
```

```
  begin
```

```
    clk <= '0';
    wait for 10 ns;
    clk <= '1';
    wait for 10 ns;
```

```
  end process;
```

```
  -- manage athome
```

```
  ah <= '0', '1' after 545 ns, '0' after 555 ns, '1' after 1045 ns, '0' after 1055 ns, '1'
after 1165 ns, '0' after 1175 ns;
```

```
  -- manage findfood
```

```
  f <= '0', '1' after 185 ns, '0' after 195 ns, '1' after 265 ns, '0' after 275 ns, '1'
after 365 ns, '0' after 375 ns,
  '1' after 485 ns, '0' after 495 ns, '1' after 625 ns, '0' after 635 ns, '1' after 725
ns, '0' after 735 ns,
  '1' after 845 ns, '0' after 855 ns, '1' after 1105 ns, '0' after 1115 ns, '1' after 1245
ns, '0' after 1255 ns,
  '1' after 1285 ns, '0' after 1295 ns, '1' after 1465 ns, '0' after 1475 ns ;
```

```
  -- manage lostfood
```

```
  l <= '0', '1' after 645 ns, '0' after 655 ns, '1' after 745 ns, '0' after 755 ns, '1'
after 1265 ns, '0' after 1275 ns,
  '1' after 1565 ns, '0' after 1575 ns;
```

```
  --manage closetofood
```

```
  c <= '0', '1' after 285 ns, '0' after 295 ns, '1' after 385 ns, '0' after 395 ns, '1'
after 505 ns, '0' after 515 ns,
  '1' after 1125 ns, '0' after 1135 ns, '1' after 1305 ns, '0' after 1315 ns;
```

```
  --manage success
```

```
  s <= '0', '1' after 405 ns, '0' after 415 ns, '1' after 525 ns, '0' after 535 ns, '1'
after 1145 ns, '0' after 1155 ns,
  '1' after 1185 ns, '0' after 1195 ns, '1' after 1325 ns, '0' after 1335 ns;
```

```
  -- manage aboverestth
```

```
  arest <= '0', '1' after 105 ns, '0' after 115 ns, '1' after 165 ns, '0' after 175 ns,
  '1' after 245 ns, '0' after 255 ns, '1' after 345 ns, '0' after 355 ns, '1' after 465
ns, '0' after 475 ns,
  '1' after 605 ns, '0' after 615 ns, '1' after 705 ns, '0' after 715 ns, '1' after 825
ns, '0' after 835 ns,
  '1' after 925 ns, '0' after 935 ns, '1' after 1005 ns, '0' after 1015 ns, '1' after 1085
ns, '0' after 1095 ns,
  '1' after 1225 ns, '0' after 1235 ns, '1' after 1365 ns, '0' after 1375 ns;
```

```
  -- manage abovesearchth
```

```
asearch <= '0', '1' after 765 ns, '0' after 775 ns, '1' after 865 ns, '0' after 875 ns,  
'1' after 945 ns, '0' after 955 ns,  
'1' after 1025 ns, '0' after 1035 ns, '1' after 1805 ns, '0' after 1815 ns ;
```

```
-- manage scantimeup  
scan <= '0', '1' after 1705 ns, '0' after 1715 ns;
```

```
end test1;
```

```
library work;  
configuration config1 of work.testRobot is  
  for test1  
    for A:Robot use entity work.Robot(automate_robot);  
    end for;  
  end for;  
end config1;
```