

```

1  -- TESTROBOT.VHD --
2
3  library ieee;
4  use ieee.std_logic_1164.all;
5
6  entity testRobot is
7  end testRobot;
8
9  architecture test1 of testRobot is
10     component Robot is
11         port(reset, clk, athome, findfood, lostfood, closetofood,
12             success, aboverestth, abovesearchth, scantimeup: in std_logic;
13             rest, search, food: out std_logic);
14     end component;
15     signal r, clk, ah, f, l, c, s, arest, asearch, scan, re, se, fo : std_logic := '0';
16 begin
17     A: Robot port map(r, clk, ah, f, l, c, s, arest, asearch, scan, re, se, fo);
18     -- manage reset
19     r <= '0', '1' after 44 ns, '0' after 45 ns, '1' after 84 ns, '0' after 85 ns,
20         '1' after 144 ns, '0' after 145 ns,
21         '1' after 224 ns, '0' after 225 ns, '1' after 324 ns, '0' after 325 ns, '1'
22         after 444 ns, '0' after 445 ns, '1' after 584 ns, '0' after 585 ns,
23         '1' after 684 ns, '0' after 685 ns, '1' after 804 ns, '0' after 805 ns, '1'
24         after 904 ns, '0' after 905 ns, '1' after 984 ns, '0' after 985 ns,
25         '1' after 1064 ns, '0' after 1065 ns, '1' after 1204 ns, '0' after 1205 ns,
26         '1' after 1324 ns, '0' after 1325 ns;
27     -- manage clock
28     process
29     begin
30         clk <= '0';
31         wait for 10 ns;
32         clk <= '1';
33         wait for 10 ns;
34     end process;
35     -- manage athome
36     ah <= '0', '1' after 545 ns, '0' after 555 ns, '1' after 1045 ns, '0' after 1055
37     ns, '1' after 1165 ns, '0' after 1175 ns;
38     -- manage findfood
39     f <= '0', '1' after 185 ns, '0' after 195 ns, '1' after 265 ns, '0' after 275
40     ns, '1' after 365 ns, '0' after 375 ns,
41     '1' after 485 ns, '0' after 495 ns, '1' after 625 ns, '0' after 635 ns, '1'
42     after 725 ns, '0' after 735 ns,
43     '1' after 845 ns, '0' after 855 ns, '1' after 1105 ns, '0' after 1115 ns, '1'
44     after 1245 ns, '0' after 1255 ns,
45     '1' after 1265 ns, '0' after 1275 ns;
46     -- manage lostfood
47     l <= '0', '1' after 645 ns, '0' after 655 ns, '1' after 745 ns, '0' after 755
48     ns, '1' after 1265 ns, '0' after 1275 ns;
49     --manage closetofood
50     c <= '0', '1' after 285 ns, '0' after 295 ns, '1' after 385 ns, '0' after 395
51     ns, '1' after 505 ns, '0' after 515 ns,
52     '1' after 1125 ns, '0' after 1135 ns;
53     --manage sucess
54     s <= '0', '1' after 405 ns, '0' after 415 ns, '1' after 525 ns, '0' after 535
55     ns, '1' after 1145 ns, '0' after 1155 ns,
56     '1' after 1185 ns, '0' after 1195 ns;
57     -- manage aboverestth
58
59     arest <= '0', '1' after 105 ns, '0' after 115 ns, '1' after 165 ns, '0' after
60     175 ns,
61     '1' after 245 ns, '0' after 255 ns, '1' after 345 ns, '0' after 355 ns, '1'
62     after 465 ns, '0' after 475 ns,
63     '1' after 605 ns, '0' after 615 ns, '1' after 705 ns, '0' after 715 ns, '1'
64     after 825 ns, '0' after 835 ns,
65     '1' after 925 ns, '0' after 935 ns, '1' after 1005 ns, '0' after 1015 ns, '1'
66     after 1085 ns, '0' after 1095 ns,
67     '1' after 1225 ns, '0' after 1235 ns;
68
69     -- manage abovesearchth
70     asearch <= '0', '1' after 765 ns, '0' after 775 ns, '1' after 865 ns, '0' after
71     875 ns, '1' after 945 ns, '0' after 955 ns,
72     '1' after 1025 ns, '0' after 1035 ns;

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58
59
60     -- manage scantimeup
61     scan <= '0', '1' after 1405 ns, '0' after 1415 ns;
62
63 end test1;
64
65 library work;
66 configuration config1 of work.testRobot is
67     for test1
68         for A:Robot use entity work.Robot(automate_robot);
69         end for;
70     end for;
71 end config1;
72
73
74
```