```
x"42840000",
x"e4000027",
++++
Mihael Scofield de Azevedo
                                           x"00000000".
Thauan de Souza Tavares da Silva
                                           x"93030001",
x"e390002A"
x"95050001".
++++
                                           x"a5020000".
                                           x"42840000".
use work.p_wires.all;
                                           x"e4000027",
                                           x"d000001e",
entity mem_prog is
 port (ender: in reg7;
                                           x"00000000".
    instr : out reg32);
                                           x"17270000",
                                           x"d000001F",
 type t_prog_mem is array (0 to 127) of reg32;
                                           x"00000000",
 -- memoria de programa contem somente 64
                                           x"c7000000",
                                           x"f0000000",
palavras
 constant program : t_prog_mem := (
  x"10010000",
                                           x"00000000".
  x"10020000"
                                           x"00000000".
  x"10030000".
                                           x"00000000",
  x"90050100".
                                           x"00000000".
  x"11260000",
                                           x"00000000".
  x"b5600000"
                                           x"00000000".
  x"95050001".
                                           x"00000000".
  x"9f0f0010",
                                           x"00000000".
  x"90090100".
                                           x"00000000".
  x"d0000011",
                                           x"00000000".
  x"00000000".
                                           x"00000000".
                                           x"00000000",
                                           x"00000000".
  x"91010001",
  x"e1f00018",
                                           x"00000000",
  x"10020000"
                                           x"00000000".
  x"11260000".
                                           x"00000000".
  x"b5600000".
                                           x"00000000".
  x"95050001",
                                           x"00000000".
                                           x"00000000".
  x"00000000",
                                           x"00000000".
  x"92020001".
                                           x"00000000".
  x"e2f0000a",
                                           x"00000000".
  x"11260000",
                                           x"00000000".
  x"b5600000"
                                           x"00000000".
  x"95050001",
                                           x"00000000",
  x"d0000011",
                                           x"00000000".
                                           x"00000000".
  x"00000000".
                                           x"00000000".
  x"10070000",
                                           x"00000000",
  x"90050100".
                                           x"00000000".
  x"a5020000",
                                           x"00000000",
  x"90080003".
                                           x"00000000",
```

```
x"00000000",
 x"00000000".
 x"00000000".
                                                function BV2INT7(S: reg7) return integer is
 x"00000000".
                                                 variable result: integer;
 x"00000000".
                                                begin
 x"00000000".
                                                 for i in S'range loop
 x"00000000".
                                                  result := result * 2;
 x"00000000".
                                                  if S(i) = '1' then
                                                   result := result + 1;
 x"00000000"
 x"00000000",
                                                  end if;
 x"00000000".
                                                 end loop;
                                                 return result;
 x"00000000".
 x"00000000".
                                                end BV2INT7;
 x"00000000".
 x"00000000",
                                               end mem_prog;
 x"00000000".
 x"00000000".
                                               -- nao altere esta arquitetura
 x"00000000".
                                               architecture tabela of mem_prog is
 x"00000000".
                                               begin -- tabela
 x"00000000".
                                                instr <= program( BV2INT7(ender) );</pre>
 x"00000000",
 x"00000000"
 x"00000000".
                                               end tabela;
 x"00000000".
 x"00000000".
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 x"00000000".
 x"00000000".
 x"00000000".
 x"00000000",
 x"00000000",
      x"00000000"
);
```