Please print out this form (two-sided, if you can) and write your answers legibly in the spaces provided. If you can’t write legibly, type.

1. What is the BCD representation of the number 9234? What is the largest four digit BCD value? Compare this to the largest integer you can represent in binary using the same number of bits.

2. Draw a diagram of the circuit specified by the VHDL code fragment shown below. You may assume that a, b and c are single bit signals.
   
   ```vhdl
   x <= w when a=b else
      y+z when b>c else
      y-z when b<c else
      "0101";
   ```
3. Does the process shown below define a combinational circuit? Why or why not?

```vhdl
process (u, v) begin
  a <= "000";
  if u > v then
    a <= "010"; b <= "110";
  end if;
  if u < v then
    b <= "010";
  elsif u = v then
    b <= "111"; c <= "100";
  else
    c <= "001";
  end if;
end process;
```