```
88:AL
  │
  ▼
89:BL
  │
  ▼
90:IF
 │  \
rst   !(rst)
 │      \
 │       ▼
 │     122:IF
 │       │
 │       │ enable
 ▼       │
```

90:BL
exponent_a <= 0;
exponent_b <= 0;
mantissa_a <= 0;
mantissa_b <= 0;
expa_gt_expb <= 0;
expa_et_expb <= 0;
mana_gtet_manb <= 0;
a_gtet_b <= 0;
sign <= 0;
exponent_small <= 0;
exponent_large <= 0;
mantissa_small <= 0;
mantissa_large <= 0;
small_is_denorm <= 0;
large_is_denorm <= 0;
large_norm_small_denorm <= 0;
small_is_nonzero <= 0;
exponent_diff <= 0;
minuend <= 0;
subtrahend <= 0;
subtra_shift <= 0;
subtra_shift_3 <= 0;
diff_shift_2 <= 0;
diff <= 0;
diffshift_gt_exponent <= 0;
diffshift_et_55 <= 0;
diff_1 <= 0;
exponent <= 0;
exponent_2 <= 0;
diff_2 <= 0;

122:BL
exponent_a <= opa[62:52];
exponent_b <= opb[62:52];
mantissa_a <= opa[51:0];
mantissa_b <= opb[51:0];
expa_gt_expb <= exponent_a > exponent_b;
expa_et_expb <= exponent_a == exponent_b;
mana_gtet_manb <= mantissa_a >= mantissa_b;
a_gtet_b <= expa_gt_expb | expa_et_expb & mana_gtet_manb;
sign <= (a_gtet_b)? opa[63] : !opb[63] ^ (fpu_op == 3'b000);
exponent_small <= (a_gtet_b)? exponent_b : exponent_a;
exponent_large <= (a_gtet_b)? exponent_a : exponent_b;
mantissa_small <= (a_gtet_b)? mantissa_b : mantissa_a;
mantissa_large <= (a_gtet_b)? mantissa_a : mantissa_b;
small_is_denorm <= !(exponent_small > 0);
large_is_denorm <= !(exponent_large > 0);
large_norm_small_denorm <= (small_is_denorm == 1) && (large_is_denorm == 0);
small_is_nonzero <= (exponent_small > 0) | |mantissa_small[51:0];
exponent_diff <= exponent_large - exponent_small - large_norm_small_denorm;
minuend <= { !large_is_denorm, mantissa_large, 2'b00 };
subtrahend <= { !small_is_denorm, mantissa_small, 2'b00 };
subtra_shift <= subtrahend >> exponent_diff;
subtra_shift_3 <= (subtra_fraction_enable)? subtra_shift_2 : subtra_shift;
diff_shift_2 <= diff_shift;
diff <= minuend - subtra_shift_3;
diffshift_gt_exponent <= diff_shift_2 > exponent_large;
diffshift_et_55 <= diff_shift_2 == 55;
diff_1 <= (diffshift_gt_exponent)? diff << exponent_large : diff << diff_shift_2;
exponent <= (diffshift_gt_exponent)? 0 : exponent_large - diff_shift_2;
exponent_2 <= (diffshift_et_55)? 0 : exponent;
diff_2 <= (in_norm_out_denorm)? { 1'b0, diff_1 >> 1 } : { 1'b0, diff_1 };

Leaf_88:AL