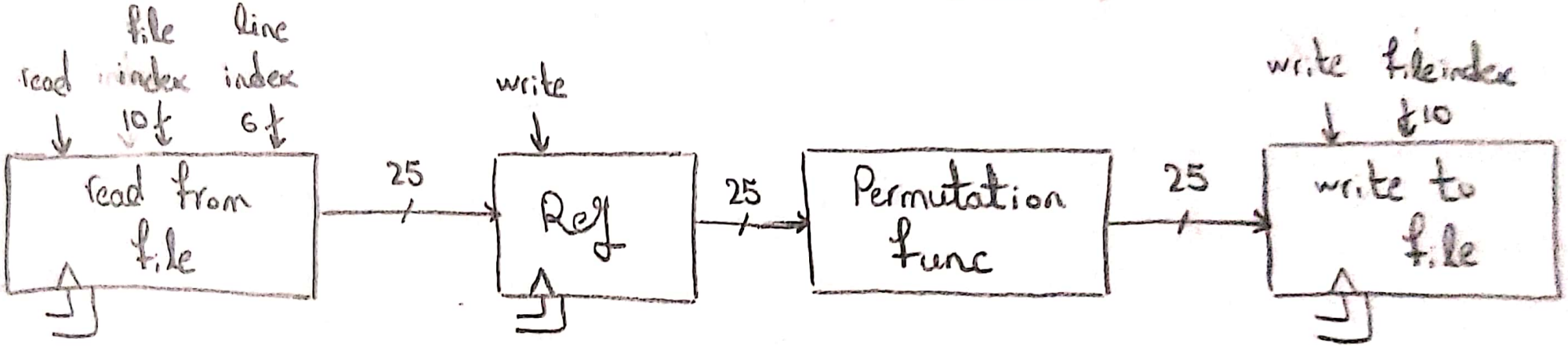
read
file index
10
line index
6
read from file
25
write
Reg
25
Permutation func
25
write fileindex
10
write to file

```
1   `timescale 1ns/1ns
2
3   module datapath (clk, rst, read_file, file_index, line_index, write_reg, write_file);
4
5       input clk, rst, read_file, write_reg, write_file;
6       input [9:0] file_index;
7       input [5:0] line_index;
8
9       wire [24:0] reg25_in;
10      wire [24:0] reg25_out;
11      wire [24:0] perm_out;
12
13      read_file ReadFile (.clk(clk), .rst(rst),
14                          .read_file(read_file), .file_index(file_index),
15                          .line_index(line_index), .data_out(reg25_in));
16
17      reg25 Reg25 (.clk(clk), .rst(rst),
18                   .ld(write_reg), .clr(rst),
19                   .in(reg25_in), .out(reg25_out));
20
21      permutaion Permutation (.in(reg25_out), .out(perm_out));
22
23      write_file WriteFile (.clk(clk), .rst(rst),
24                            .write_file(write_file), .file_index(file_index),
25                            .data_in(perm_out));
26
27  endmodule
```