Weekly Report

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Summary:

This week, I completed preliminarily my task--Finding the path details report from QOR's WNS. I spend too much time on learning how to use the re library. At first, I use a complex regular expression "re .search (r'startpoint:.*Path Group: INPUTS.*slack.*0.643')" to find the detailed report. But the return value often is a expationatory report. Then, I came up with splitting the text with the space rows before I matched it. Finally, the problem has be solved.

Data:

I assume users has input the path of QOR_Report_File and QORs_Detailed_Timing_Report at the first level window and has given the path group they wanna focus on at last level window (maybe by clicking the path group name at last level windows), I just input the variable easily in my code.

```python
from tkinter import *
import re

def detail_report_window(report):
    root = Tk()
    root.title('Detail Timing Report')
    root.geometry('800x600')
    atext=Text(root,width='600', height='600',bg='yellow')
    atext.insert(INSERT, report)
    atext.pack()


def match_detail(path1,path2,path_group):
    QOR_report=open(path1).read()
    Detailed_QOR_report=open(path2).read()
    for str in QOR_report.split('\n\n'):
        if re.search(path_group ,str, re.M|re.I):
            fact=re.search(r'Critical Path Slack:(.*)',str,re.M|re.I)
            slack=fact.group(1)
            for str in Detailed_QOR_report.split('\n\n\n'):
                if re.search(r'Path Group: '+path_group,str,re.M|re.I):
                    if re.search(r'slack.*'+slack,str,re.M|re.I):
                        detail = re.search(r'Startpoint:.*slack.*\d', str, re.M|re.I|re.S|re.DOTALL)
                        detail_report_window(detail.group())

Detailed_QOR_report_path="C:/Users/Ting Wang/Desktop/tool/QORs_Detailed_Timing_Report.txt"
QOR_report_path="C:/Users/Ting Wang/Desktop/tool/QOR_Report_File.txt"
Path_Group=input("Path_Group: ")
match_detail(QOR_report_path, Detailed_QOR_report_path, Path_Group)
```

When I type in a path group name, I get a pop up window show the detailed report of path_group with the critical path slack.

```
Path_Group: OUTPUTS
```

```
Startpoint: rptr_empty/rempty_reg
            (rising edge-triggered flip-flop clocked by rclk)
  Endpoint: rempty (output port clocked by rclk)
  Path Group: OUTPUTS
  Path Type: max

  Des/Clust/Port      Wire Load Model        Library
  ----------------------------------------------------
  fifo1               8000                   saed32rvt_fflp16vl25c
  rptr_empty_ADDRSIZE2
                      ForQA                  saed32rvt_fflp16vl25c

  Point                                    Cap     Trans    Incr     Path
  ---------------------------------------------------------------------------
  clock rclk (rise edge)                                    0.000    0.000
  clock network delay (ideal)                               0.000    0.000
  rptr_empty/rempty_reg/CLK (DFFASX1)              0.000    0.000    0.000 r
  rptr_empty/rempty_reg/QN (DFFASX1)      1.426   0.036    0.054    0.054 r
  rptr_empty/U21/A (INVX0)                        0.036    0.049    0.103 r
  rptr_empty/U21/Y (INVX0)                0.004   0.018    0.005    0.108 f
  rptr_empty/rempty (rptr_empty_ADDRSIZE2)                 0.000    0.108 f
  rempty (out)                                    0.018    0.000    0.108 f
  data arrival time                                                 0.108

  clock rclk (rise edge)                                    0.500    0.500
  clock network delay (ideal)                               0.000    0.500
  output external delay                                    -0.100    0.400
  data required time                                                0.400
  ---------------------------------------------------------------------------
  data required time                                                0.400
  data arrival time                                                -0.108
  ---------------------------------------------------------------------------
  slack (MET)                                                       0.292
```

Issue:

1. When I focus on the path group "INPUTS", it will return 12 detailed reports. I compare these reports and find these reports almost have the same path, the corresponding data, path group and slack, except startpoint and endpoint.

```
Startpoint: wdata[0] (input port clocked by wclk)
  Endpoint: fifomem/mem_reg[0][0]
          (rising edge-triggered flip-flop clocked by wclk)
  Path Group: INPUTS
  Path Type: max

  Des/Clust/Port     Wire Load Model        Library
  ------------------------------------------------------
  fifo1              8000                   saed32rvt_fflp16vl25c
  fifomem_DATASIZE4_ADDRSIZE2
                     ForQA                  saed32rvt_fflp16vl25c

  Point                                 Cap    Trans    Incr     Path
  --------------------------------------------------------------------------
  clock wclk (rise edge)                                0.000    0.000
  clock network delay (ideal)                           0.000    0.000
  input external delay                                  0.100    0.100 r
  wdata[0] (in)                        1.879   0.000    0.000    0.100 r
  fifomem/wdata[0] (fifomem_DATASIZE4_ADDRSIZE2)        0.000    0.100 r
  fifomem/U24/A2 (AO22X1)                      0.000    0.196    0.296 r
  fifomem/U24/Y (AO22X1)               0.734   0.025    0.031    0.326 r
  fifomem/mem_reg[0][0]/D (DFFX1)              0.025    0.011    0.338 r
  data arrival time                                              0.338

  clock wclk (rise edge)                                1.000    1.000
  clock network delay (ideal)                           0.000    1.000
  fifomem/mem_reg[0][0]/CLK (DFFX1)                     0.000    1.000 r
  library setup time                                   -0.019    0.981
  data required time                                            0.981
  --------------------------------------------------------------------------
  data required time                                            0.981
  data arrival time                                            -0.338
  --------------------------------------------------------------------------
  slack (MET)                                                   0.643
Startpoint: wdata[3] (input port clocked by wclk)
  Endpoint: fifomem/mem_reg[2][3]
          (rising edge-triggered flip-flop clocked by wclk)
  Path Group: INPUTS
  Path Type: max

  Des/Clust/Port     Wire Load Model        Library
  ------------------------------------------------------
  fifo1              8000                   saed32rvt_fflp16vl25c
  fifomem_DATASIZE4_ADDRSIZE2
                     ForQA                  saed32rvt_fflp16vl25c

  Point                                 Cap    Trans    Incr     Path
  --------------------------------------------------------------------------
  clock wclk (rise edge)                                0.000    0.000
  clock network delay (ideal)                           0.000    0.000
  input external delay                                  0.100    0.100 r
  wdata[3] (in)                        1.879   0.000    0.000    0.100 r
  fifomem/wdata[3] (fifomem_DATASIZE4_ADDRSIZE2)        0.000    0.100 r
  fifomem/U17/A2 (AO22X1)                      0.000    0.196    0.296 r
  fifomem/U17/Y (AO22X1)               0.734   0.025    0.031    0.326 r
  fifomem/mem_reg[2][3]/D (DFFX1)              0.025    0.011    0.338 r
  data arrival time                                              0.338

  clock wclk (rise edge)                                1.000    1.000
  clock network delay (ideal)                           0.000    1.000
  fifomem/mem_reg[2][3]/CLK (DFFX1)                     0.000    1.000 r
  library setup time                                   -0.019    0.981
  data required time                                            0.981
  --------------------------------------------------------------------------
  data required time                                            0.981
  data arrival time                                            -0.338
  --------------------------------------------------------------------------
  slack (MET)                                                   0.643
```

I wanna to know **how to deal with these reports. Should I leave only one report?** It is strange that 12 reports appear at the same time. The condition is like I get trouble in computer virus.

2. I just put a text version of detailed reports on the pop up GUI window and I haven't begin to design the GUI window. I want to know **what function of the pop up window. Should it link the next level function? I expect make a form for the detailed report, but there are too many information, such as library, load model. Can I delete some information?**

Next Week:

Do the design for the pop up window.