CENTER OF NANOELECTRONICS & DEVICES

CND 211: Advanced-Digital Design

Assignment #: 01

Section #: 21

Submitted by:

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The Code :

```
# Open the file for reading and writing
set inputFile "input.txt"
set file [open $inputFile r+]

# Read the content of the file
set content [read $file]

# Process the content to swap columns 3 and 4, and add "ff" to the Load column and "ns" to the Delay column
set lines [split $content "\n"]
set modifiedContent "Name     Trans   Delay      Load\n---------------------------------\n"
set isFirstLine true
foreach line $lines {
    if {$isFirstLine} {
        # Skip the first line (header) and set isFirstLine to false
        set isFirstLine false
    } elseif {[regexp {(\S+)\s+(\S+)\s+(\S+)\s+(\S+)} $line -> name trans load delay]} {
        # For lines with expected data format, rearrange the columns by swapping the third and fourth columns and append "ff" to Load column and "ns" to Delay column
        append modifiedContent [format "%-8s  %-7s %-9s %-7s\n" $name $trans "${delay}ns" "${load}ff"]
    }
}

# Set the file position to the beginning
seek $file 0 start

# Write the modified content back to the file
puts -nonewline $file $modifiedContent

# Close the file
close $file
```

The Results :

```
Name     Trans   Delay      Load
---------------------------------
OR2_2X   0.1     1.50ns     1.25ff
OR2_3X   0.2     1.75ns     1.98ff
OR3_3X   0.3     2.37ns     2.27ff
OR3_4X   0.4     1.82ns     2.54ff
NOR2_2X  0.2     2.14ns     1.69ff
NOR2_3X  0.3     2.84ns     2.11ff
```