**系統程式設計**

**Lab3 Demo Answers**

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1. **How do you direct the output file to ‘/dev/null’?**

time ./buffsize100 < 1mb\_file\_for\_bufferSize100

time ./buffsize100 < 1mb\_file\_for\_bufferSize100 1>/dev/null

(0 → STDIN, 1 → STDOUT, 2 → STDERR)

1. **The table of Part3   
   Does the bigger buffsize make IO faster?**

Yes, in the table we can see the phenomenon clearly by comparing 100 buffer size and 16384 buffer size using 500mb file.

Real, user, system time all reduced.

1. **The table of Part4   
   What happened? Why?**

File1 and first time of file2 use similar time, but the second time of file2 cost less time.

It is due to the locality designed to manage memory, if the object is used recently, it will cost less time to use it again.

1. **The table of Part5  
   What happened? Why?**

The time that file3 and file4 cost is more than file1 and file2, it is because fsync let disk to write to complete, including the file’s data and attributes update.