2020 Digital IC Design Homework 3: Approximate Average

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| **Simulation Result** | | | | | | | | |
| Functional simulation | Pass | | Gate-level simulation | Pass | | | Gate-level simulation time | 164410 (ns) |
|  | | | | | |  | | |
| **Synthesis Result** | | | | | | | | |
| Total logic elements | | | | | 486 | | | |
| Total memory bit | | | | | 0 | | | |
| Embedded multiplier 9-bit element | | | | | 0 | | | |
|  | | | | | | | | |
| **Description of your design** | | | | | | | | |
| 用72bit reg XS存9個8-bit number，clock來時，取後8個數字及input，計算Xavg，接著根據公式找出Xapproximate，後面將Xapproximate \* 9改成  (Xapproximate >> 3)+ Xapproximate)，用shift代替乘法，最後在shift right 3 bits代替除以8，得到output | | | | | | | | |

*Scoring = (Total logic elements + total memory bit + 9\*embedded multiplier 9-bit element) (gate-level simulation time in ns)*