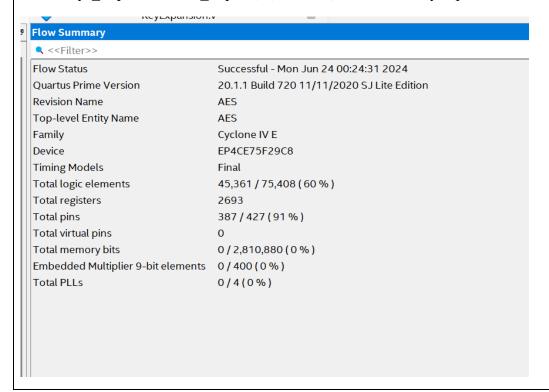
## 2024 Digital IC Design Homework 5

NAME	張家菖			
Student ID	P76121110			
Score =	52,437,316000 = 45361*1156000(ps)			
area*timing (ps)				
Cycle time (ns)	10			
Simulation Result				
Functional	Completed	Gate-level	Completed	
simulation		simulation	Completed	
######################################		VSIM 20> run -all		

## Description of your design

用 fullkeys\_tmp 和 stateArr\_tmp 來暫存 round 資訊,以及 keyExpansion



The scoring standard: (The smaller, the better) *Scoring* =

Area cost \* Timing cost

*Area cost* =

Total logic elements + total memory bits + 9 \* embedded multiplier 9-bit elements

Timing cost =

Simulation time

Flow Summary			
< <filter>&gt;</filter>			
Flow Status	Successful - Mon May 20 14:38:37 2024		
Quartus Prime Version	20.1.1 Build 720 11/11/2020 SJ Lite Edition		
Revision Name	AES		
Top-level Entity Name	AES		
Family	Cyclone IV E		
Device	EP4CE75F29C8		
Timing Models	Final		
Total logic elements	45,971		
Total registers	2954		
Total pins	387		
Total virtual pins	0		
Total memory bits	0		
Embedded Multiplier 9-bit elements	0		
Total PLLs	0		