1. Results(due to time, the results only show time, no memory, and the the log format is not explicitly called, because other appenders don't have a getEventStrings method):

case				
id	Appender	Layout	events	time(ms)
1	MemAppender	VelocityLayout	1000	249
2	MemAppender	VelocityLayout	20000	927
3	MemAppender	PatternLayout	1000	12
4	MemAppender	PatternLayout	20000	1079
5	ConsoleAppender	VelocityLayout	1000	4
6	ConsoleAppender	VelocityLayout	20000	397
7	ConsoleAppender	PatternLayout	1000	3
8	ConsoleAppender	PatternLayout	20000	1002
9	FileAppender	VelocityLayout	1000	3
10	FileAppender	VelocityLayout	20000	415
11	FileAppender	PatternLayout	1000	7
12	FileAppender	PatternLayout	20000	409

## 2. Analyse

- a. Compare case 1  $^{\sim}$  4, PatternLayout performance is better than VelocityLayout.
- b. Compare case 2 & 6, 4&8, ConsoleAppender is better than MemAppender.
- c. Compare case 2 & 10, 4&12, FileAppender is better than MemAppender