

# 資料探勘作業

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## “標準化成績”的R練習

創造一筆資料

```
Math <- c(502, 600, 412, 358, 495, 512, 410, 625, 573, 522)
Science <- c(95, 99, 80, 82, 75, 85, 80, 95, 89, 86)
English <- c(25, 22, 18, 15, 20, 28, 15, 30, 27, 18)
Student <- c("A", "B", "C", "D", "E", "F", "G", "H", "I", "J")
roster <- data.frame(Student, Math, Science, English, stringsAsFactors = FALSE)

roster
```

	Student	Math	Science	English
## 1	A	502	95	25
## 2	B	600	99	22
## 3	C	412	80	18
## 4	D	358	82	15
## 5	E	495	75	20
## 6	F	512	85	28
## 7	G	410	80	15
## 8	H	625	95	30
## 9	I	573	89	27
## 10	J	522	86	18

計算標準差

```
z <- scale(roster[, 2:4])
score <- apply(z, 1, mean)
roster <- cbind(roster, score)
roster
```

	Student	Math	Science	English	score
## 1	A	502	95	25	0.5592028
## 2	B	600	99	22	0.9238259
## 3	C	412	80	18	-0.8565414
## 4	D	358	82	15	-1.1620473
## 5	E	495	75	20	-0.6289776
## 6	F	512	85	28	0.3532485
## 7	G	410	80	15	-1.0476242
## 8	H	625	95	30	1.3378934
## 9	I	573	89	27	0.6978361
## 10	J	522	86	18	-0.1768163