

RStudio

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411135024_hw01.R

```
1 x <- 1:100
2 n <- length(x)
3 mean_x <- sum(x) / n
4 ss <- sum((x - mean_x)^2)
5 var_x <- ss / (n - 1)
6 sd_x <- sqrt(var_x)
7 cat("平均數 =", mean_x, "\n")
8 cat("樣本變異數 Var(x) =", var_x, "\n")
9 cat("樣本標準差 Sd(x) =", sd_x, "\n")
10 cat("使用內建 var() 檢查 =", var(x), "\n")
11 cat("使用內建 sd() 檢查 =", sd(x), "\n")
12
```

Environment History Connections Tutorial

Import Dataset 140 MiB

R Global Environment

Values

mean_x	50.5
n	100L
sd_x	29.011491975882
ss	83325
var_x	841.666666666667
x	int [1:100] 1 2 3 4 5 6 7 8 9 10 ...

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D: MiftyProject > R_Jerry

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	..		
	411135024_hw01.R	343 B	Oct 7, 2025, 4:21 PM

Console Terminal Background Jobs

R R4.5.1 ~/\

```
> x <- 1:100
> n <- length(x)
> mean_x <- sum(x) / n
> ss <- sum((x - mean_x)^2)
> var_x <- ss / (n - 1)
> sd_x <- sqrt(var_x)
> cat("平均數 =", mean_x, "\n")
平均數 = 50.5
> cat("樣本變異數 Var(x) =", var_x, "\n")
樣本變異數 Var(x) = 841.6667
> cat("樣本標準差 Sd(x) =", sd_x, "\n")
樣本標準差 Sd(x) = 29.01149
> cat("使用內建 var() 檢查 =", var(x), "\n")
使用內建 var() 檢查 = 841.6667
> cat("使用內建 sd() 檢查 =", sd(x), "\n")
使用內建 sd() 檢查 = 29.01149
>
```