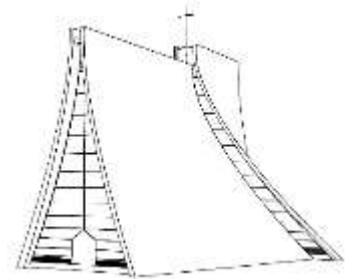




# 運算思維與程式設計

## CH8-輸出與輸入處理





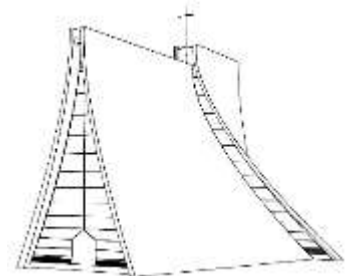
# 輸出與輸入

為了從電腦外部取得資料或是將資料輸出至電腦外部設備，每個程式語言都會提供輸入(input)與輸出(output)的指令。儘管每種程式語言使用的名稱或有不同，但通常是以英文的READ代表輸入或讀入；WRITE代表輸出或寫出。

**READ(*in\_stream*, *data\_in*)**

**WRITE(*out\_stream*, *data\_out*)**

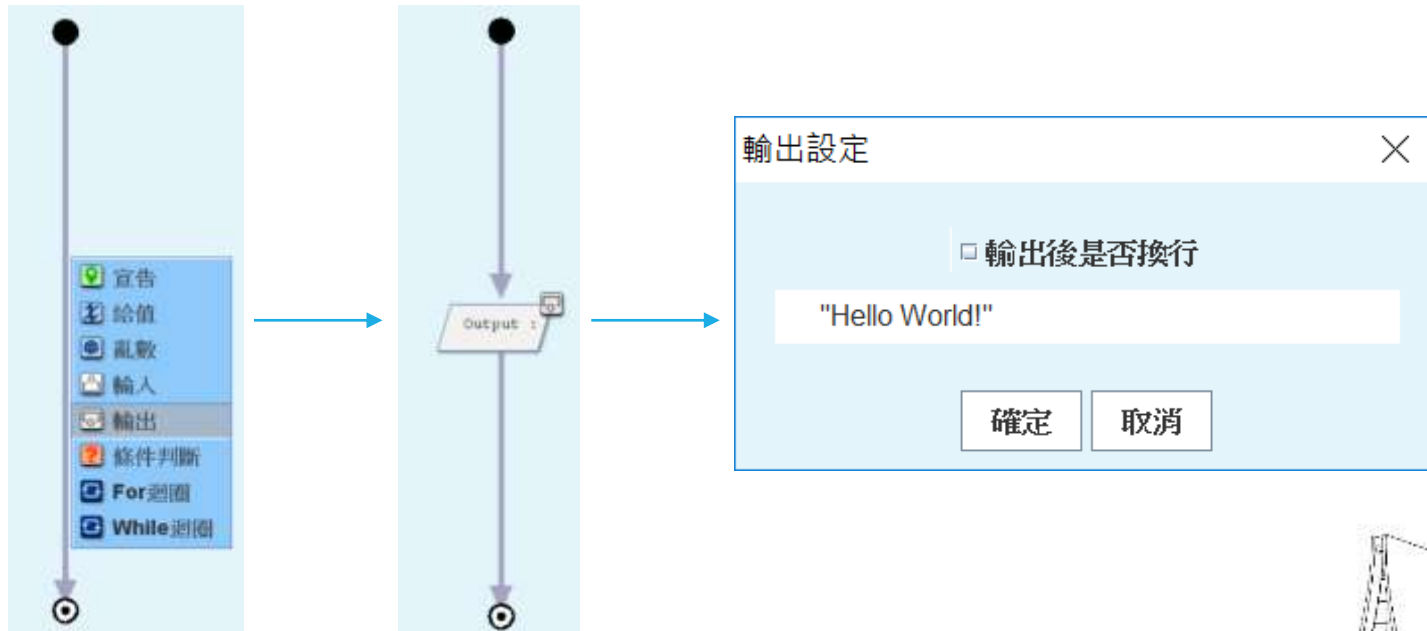
其中*in\_stream* 和 *out\_stream* 代表程式預計採用的輸入以及輸出設備；*data\_in* 和 *data\_out* 則分別代表預計存入的輸入資料以及存放輸出資料的記憶體位址。



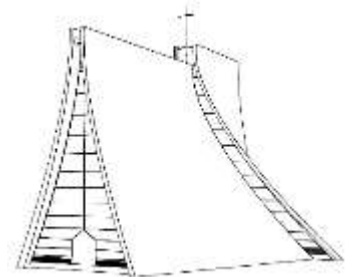


# 文字輸出

輸出文字：加註雙引號 “.....”



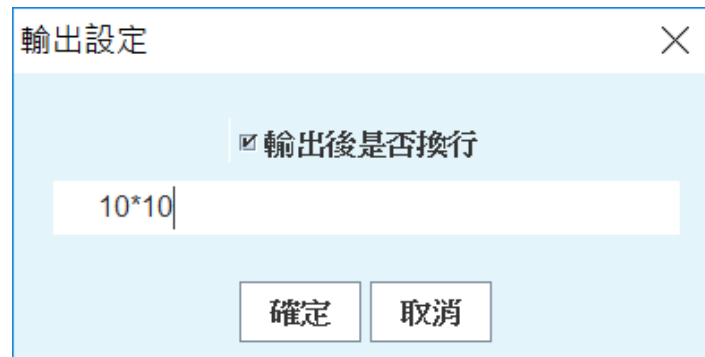
```
System.out.print("Hello World!");
```



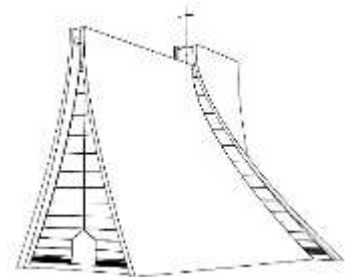


# 數值輸出

輸出數值：無需加註雙引號

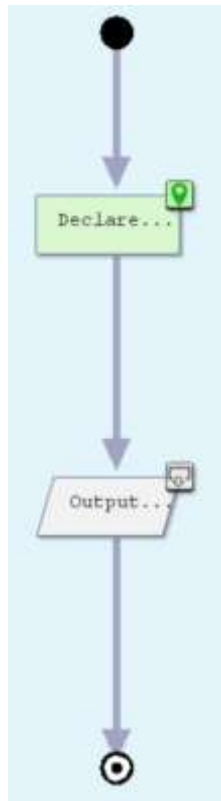


```
System.out.print(10*10);
```





# 變數輸出



變數宣告

資料型態	變數名稱	初始值	是否為陣列	陣列大小
Integer	grade	100	<input type="checkbox"/>	0

宣告grade變數，初始值100

確定 取消

輸出設定

輸出後換行

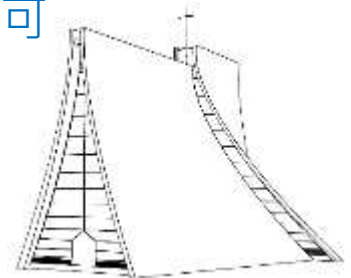
"你的數學成績為：" + grade

// 註解內容

確定 取消

填寫變數名稱即可

`System.out.println("你的數學成績為："+grade);`



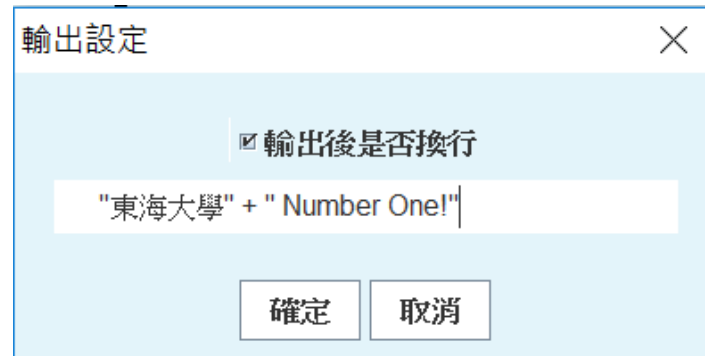


# 加號「+」的使用：字串

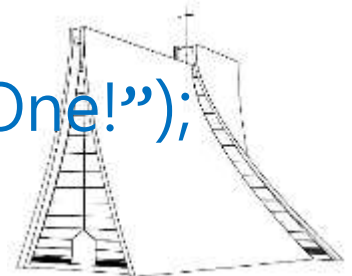
字串連接！

輸出結果：

東海大學Number One!



```
System.out.print("東海大學" + "Number One!");
```





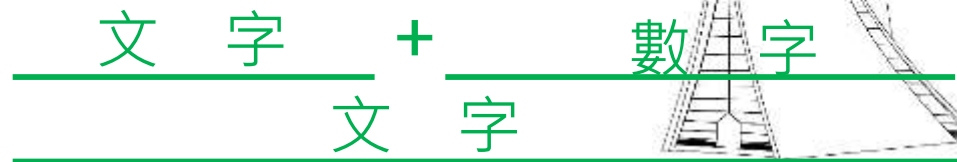
# 加號「+」的使用：數值

數值運算！

輸出結果：  
大雄的BMI = 22.491.....



```
System.out.println("大雄的BMI=" + 65 / (1.70 * 1.70));
```





# 隨堂演練

---

"Hello" + "World!" →

"Hello" + 12345 →

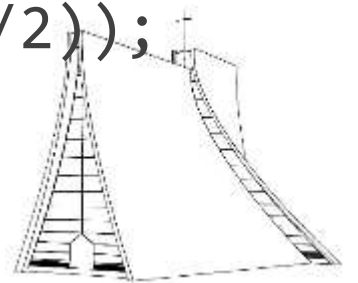
1 + "abc" + 2 →

"abc" + 9 \* 5 →

5 - 1 + "abcd" →

```
System.out.println("Result="+100-(50/2));
```

Output →







# Solution

---

"Hello" + "World!" → "HelloWorld!"

"Hello" + 12345 → "Hello12345"

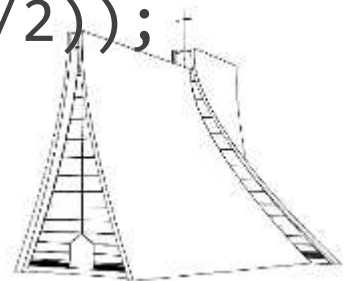
1 + "abc" + 2 → "1abc2"

"abc" + 9 \* 5 → "abc45"

5 - 1 + "abcd" → "4abcd"

```
System.out.println("Result="+100-(50/2));
```

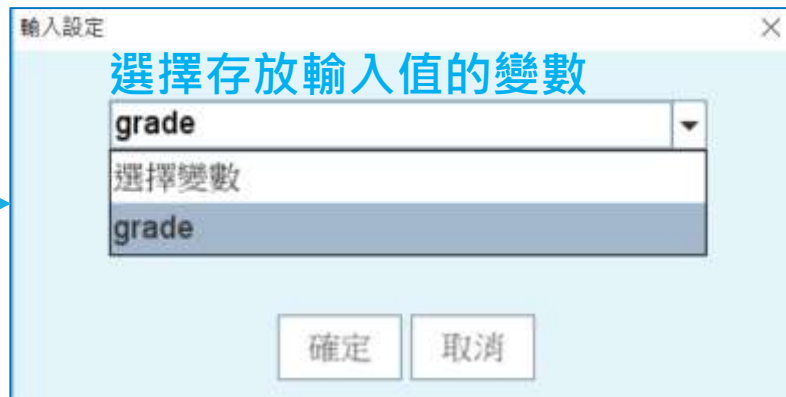
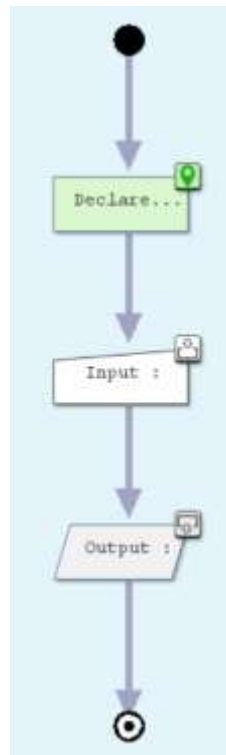
Output → **Result = 75**



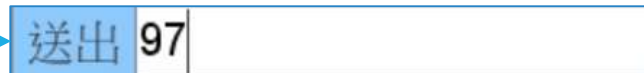


# 輸入

Int grade;

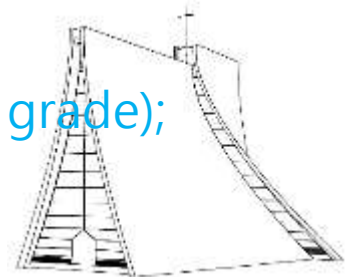


Waiting... , 直到使用者點選送出按鈕



System.out.println("你的成績 : " + grade);

Output : 你的成績 : 97

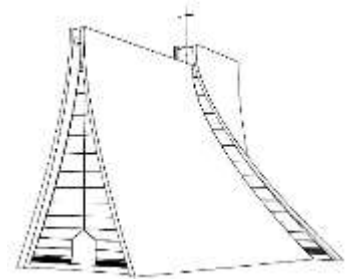


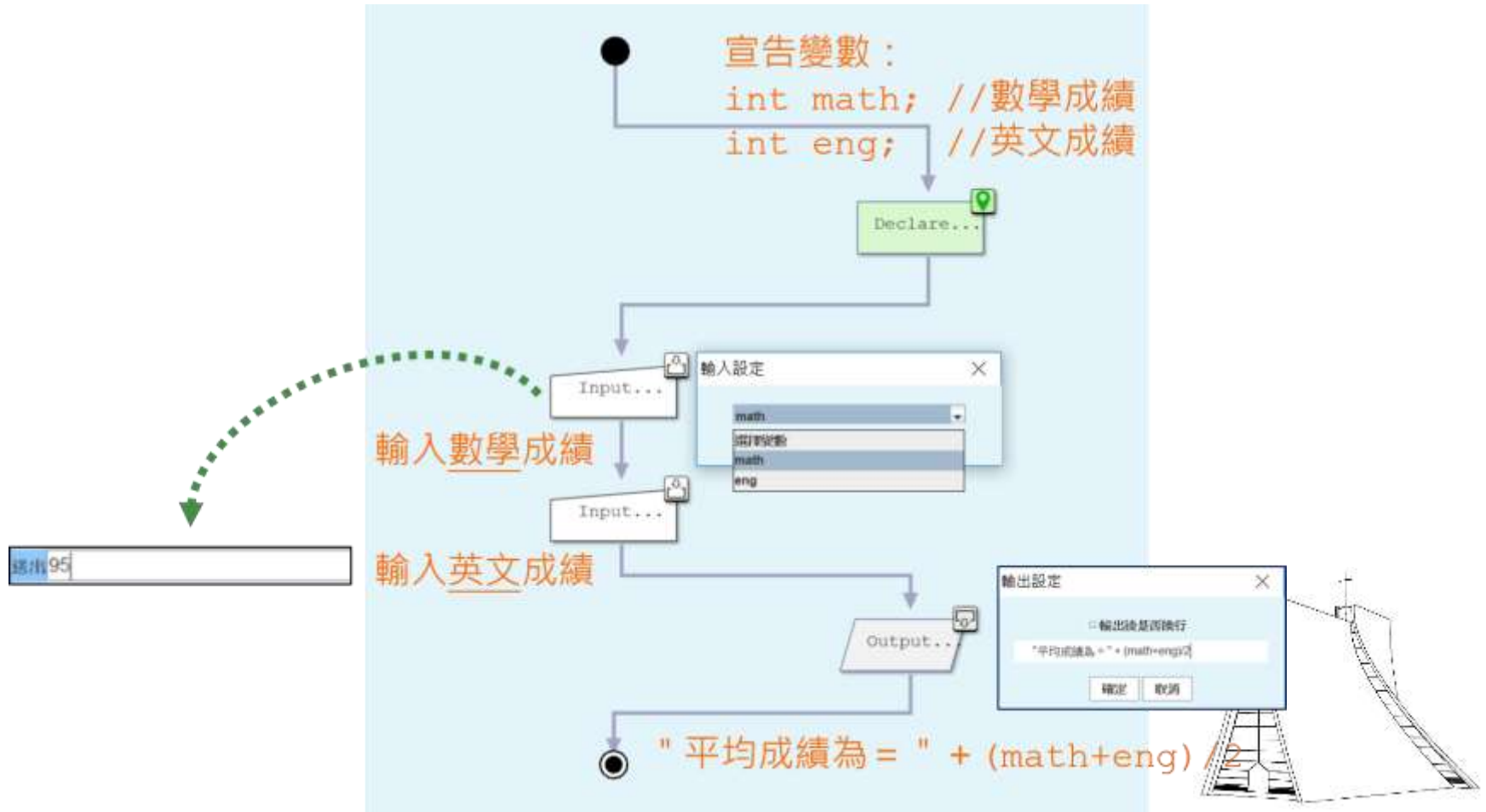


# PBL 實作案例

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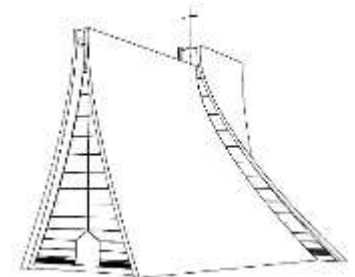
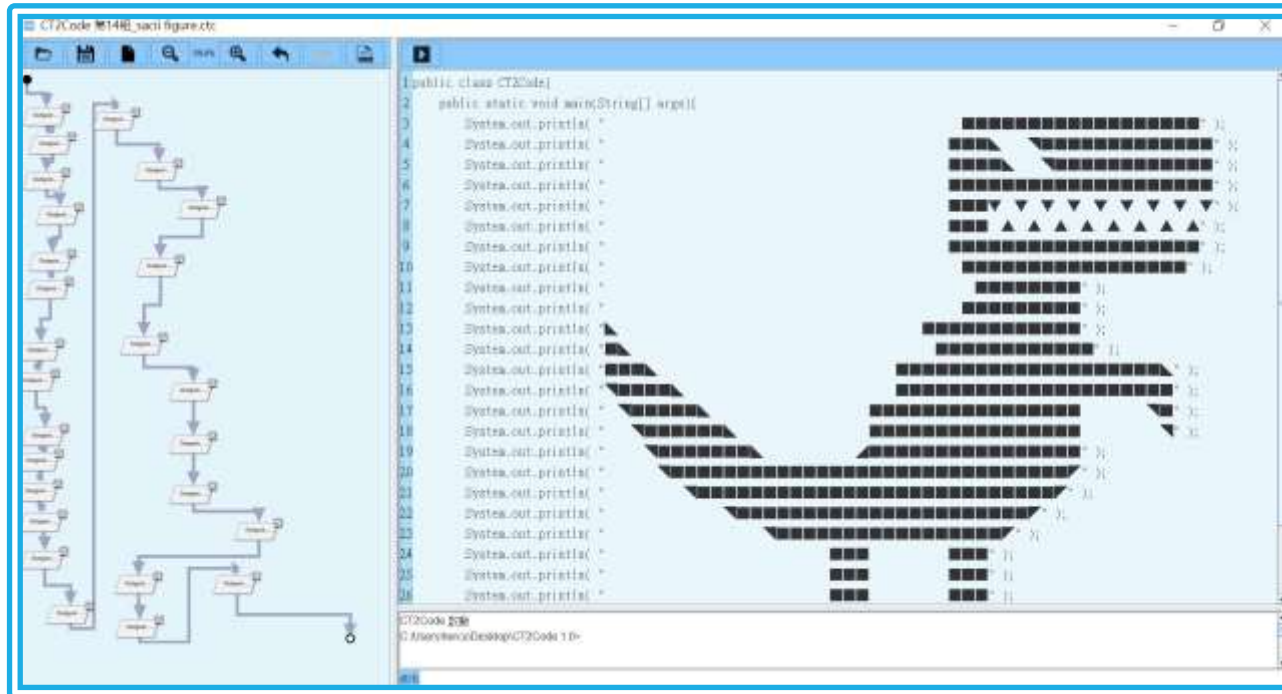
試撰寫一程式，任意輸入數學、英文成績後，系統會並輸出平均值結果。







# HW – ASCII Figure





Thank You!