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## **ANALYSIS**

### **IPO CHART**

Variable	Type	Input	Processing	Output
whole_number	Integer	X		X
thousands	Integer		X	X
hundreds	Integer		X	X
tens	Integer		X	X
ones	Integer		X	X
sum	Integer		X	X

### **FORMULAS:**

thousands  $\leftarrow$  [whole\_number / 1000]

hundreds  $\leftarrow$  [whole\_number MOD 1000] / 100

tens  $\leftarrow$  [((whole\_number MOD 1000) MOD 100) / 10]

ones  $\leftarrow$  ((whole\_number MOD 1000) MOD 100) MOD 10

### **TEST DATA**

#	sum	thousands	hundreds	tens	ones
4567	22	4	5	6	7
1234	10	1	2	3	4
8523	18	8	5	2	3

### **DESIGN (PSEUDOCODE)**

**Declare** whole\_number, thousands, hundreds, tens, ones As Integer

**Write** “Enter whole number: ”

**Input** whole\_number

**Set** thousands  $\leftarrow$  [whole\_number / 1000]

**Set** hundreds  $\leftarrow$  [whole\_number MOD 1000] / 100

**Set** tens  $\leftarrow$  [((whole\_number MOD 1000) MOD 100) / 10]

**Set** ones  $\leftarrow$  ((whole\_number MOD 1000) MOD 100) MOD 10

**Write** “The sum of the digits in the number ” + whole\_number + “is ”

+ sum

**Write** “Ones digit : ” + ones

**Write** “Tens digit : ” + tens

**Write** “Hundreds digit : ” + hundreds

**Write** “Thousands digit : ” + thousands