Q9

Flowchart

$$\boxed{\text{Start}}$$

$\Big/$ today,date, birthday, month, year $\Big/$

today = date — month — year $1 \le \text{date} \le 31$
birthday = date — month — year $1 \le \text{month} \le 12$
For   month = 1,3,5,7,8,10,12   date ≤ 31
For   month = 4,6,9,11   date ≤ 30
For   month = 2   date ≤ 28 unless
year % 400 = 0 && year % 100 != 0 || year % 4 = 0
then   date ≤ 29.

No ◄—— birthday > today ——► Yes ——► Invalid birthday

$\Big/$ IF today date >= birthday date ——► Yes   Stop

age

$\boxed{\text{age} = \text{today year} - \text{birthday year}}$

$\boxed{\text{IF today date} < \text{birthday date}, \text{age} = \text{today year} - \text{birthday year} - 1}$

——► $\Big/$ Age $\Big/$ ◄——

$$\boxed{\text{Stop}}$$

Q1
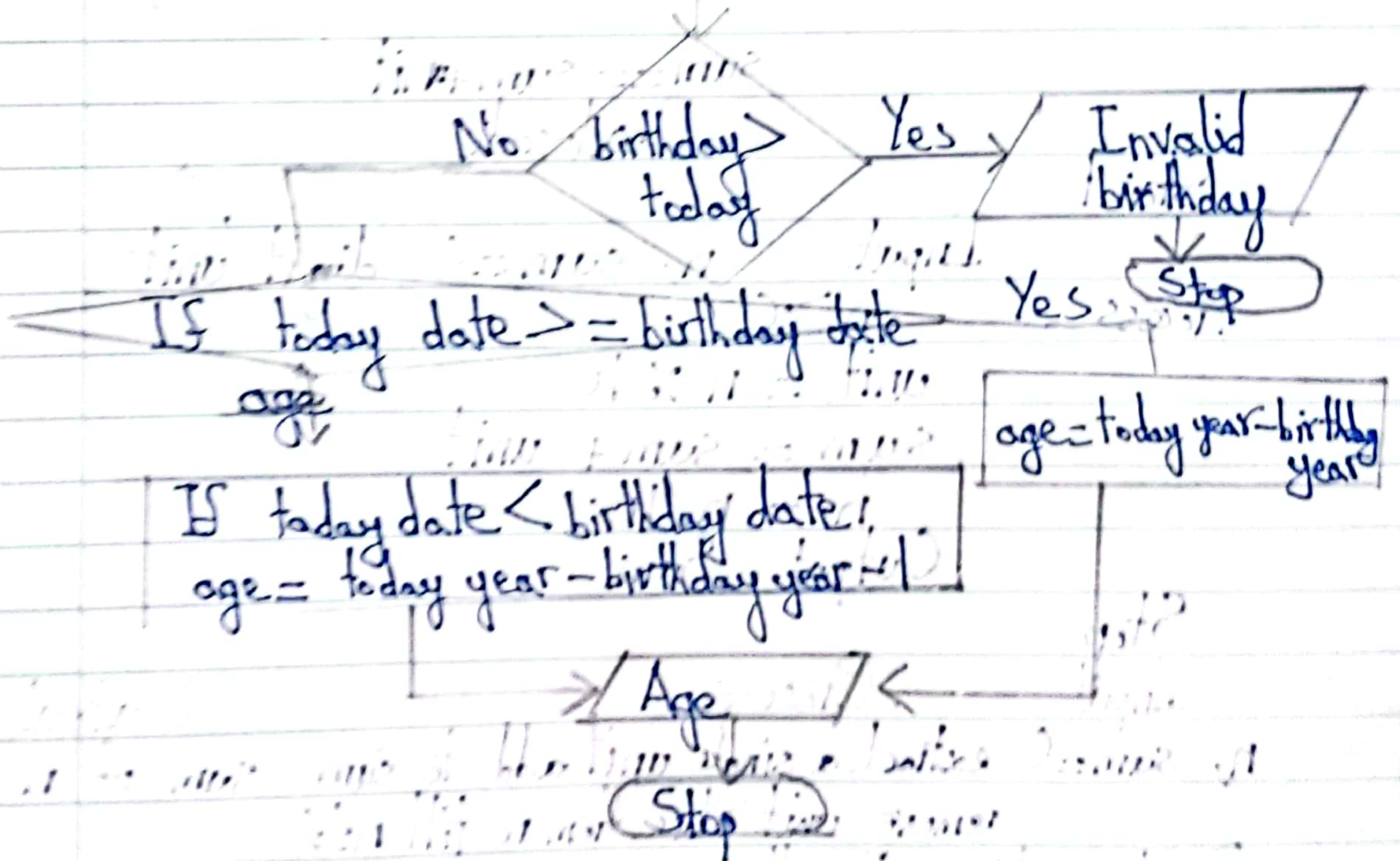
Pseudocode.

Start

Input   day, month, year, birthday, today

Process   days_month (31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 11)

For leap year   days_month(2) = 29

if $(y \% 4 == 0)$ && $(y \% 100 != 0)$ || $(y \% 400 == 0)$

if   day < 1 && day > 31

Output "Invalid data"

if   month < 1 && month > 12

Output "Invalid data"

age = birthday_year - birthday_year

For   birthday month, day < today month, day

else   age = today year - birthday year - 1

For   birthday month day > today month, day

Similarly I.S   birthday > today

Output "Invalid data"

Output   Age

IPO

Input	Process	Output
birthday, today date, day, month, year	Verify whether input is valid or not. Subtract birthday date from today date. Adjust date per day, month and year	"Age" or "Invalid input"

Explaination: The program calculates age simply by substracting the birthday from today's date. It also ascertains that all data is valid for each day, month and year. It also keeps track of leap year as instructed.