IPO Chart Program 1

Inputs:

userFirstName
pondDiameter

Algorithm:

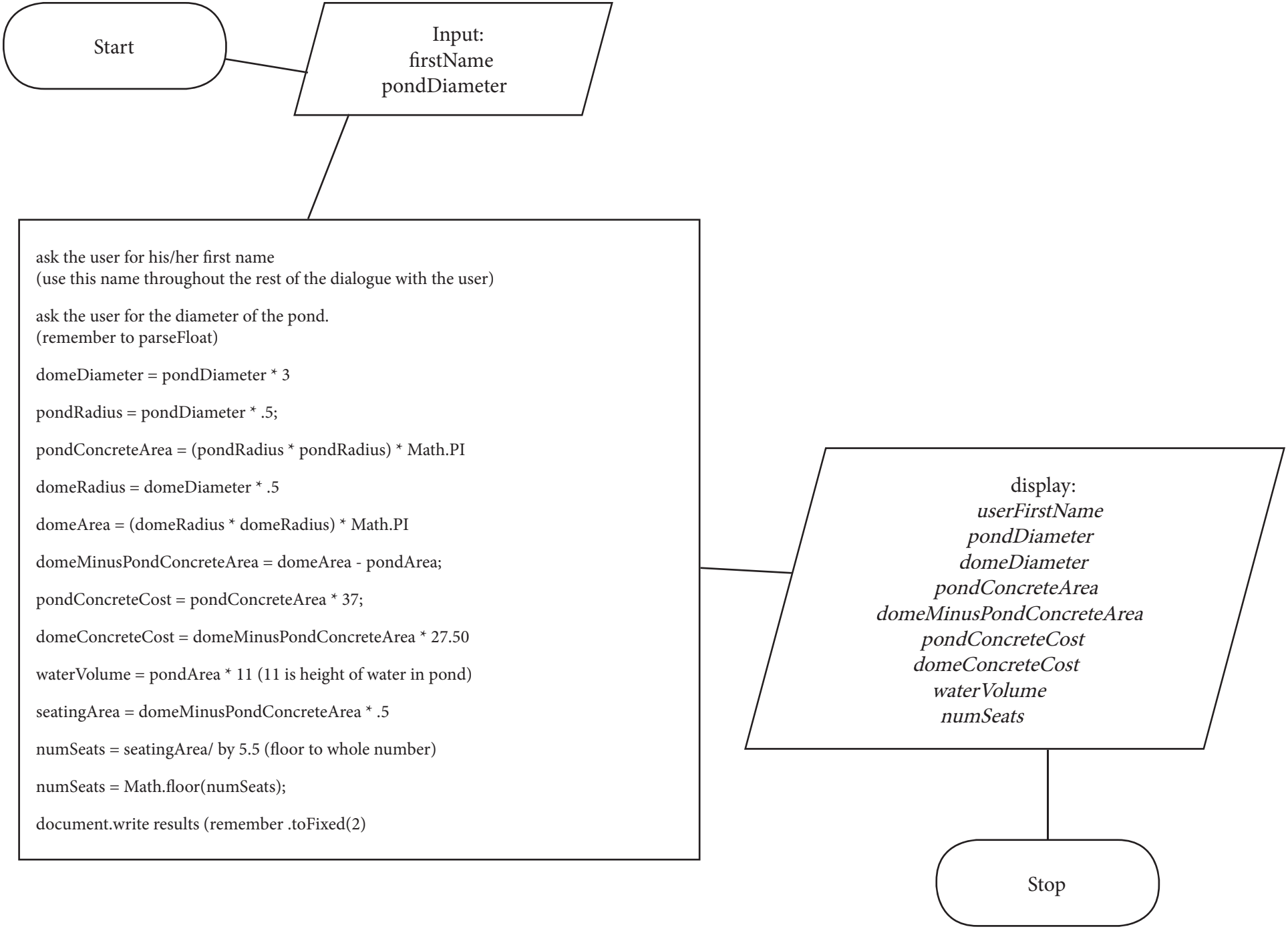
1. ask the user for his/her first name (use this name throughout the rest of the dialogue with the user)
2. ask the user for the diameter of the pond. (remember to parseFloat)
3. domeDiameter = pondDiameter * 3
4. pondRadius = pondDiameter * .5;
5. pondConcreteArea = (pondRadius * pondRadius) * Math.PI
6. domeRadius = domeDiameter * .5
7. domeArea = (domeRadius * domeRadius) * Math.PI
8. domeMinusPondConcreteArea = domeArea - pondArea;
9. pondConcreteCost = pondConcreteArea * 37;
10. domeConcreteCost = domeMinusPondConcreteArea * 27.50
11. waterVolume = pondArea * 11 (11 is height of water in pond)
12. seatingArea = domeMinusPondConcreteArea * .5
13. numSeats = seatingArea/ by 5.5 (floor to whole number)
14. numSeats = Math.floor(numSeats);
15. document.write results (remember .toFixed(2)

Outputs:

userFirstName
pondDiameter
domeDiameter
pondConcreteArea
domeMinusPondConcreteArea
pondConcreteCost
domeConcreteCost
waterVolume
numSeats

Data Dictionary

NAME (final outputs)	TYPE	DESCRIPTION
userFirstName	String	Input by user
pondDiameter	integer	Input by user
domeDiameter	integer	3 * pondDiameter
pondConcreteArea	float	PI * (pondRadius squared)
domeMinusPondConcreteArea	float	PI * (domeRadius squared) - pondConcreteArea
pondConcreteCost	float	37.0 * pondConcreteArea
domeConcreteCost	float	27.5 * domeMinusPondConcreteArea
waterVolume	float	pondArea * 11
numSeats	integer	(domeMinusPondConcreteArea / 2) / 5.5
pondRadius	float	pondDiameter * .5
domeRadius	float	domeDiameter * .5;
seatingArea	float	domeMinusPondConcreteArea * .5;
constant		
var WATER_HEIGHT = 11	integer	constant given


Start
Input:
firstName
pondDiameter
ask the user for his/her first name
(use this name throughout the rest of the dialogue with the user)
ask the user for the diameter of the pond.
(remember to parseFloat)
domeDiameter = pondDiameter * 3
pondRadius = pondDiameter * .5;
pondConcreteArea = (pondRadius * pondRadius) * Math.PI
domeRadius = domeDiameter * .5
domeArea = (domeRadius * domeRadius) * Math.PI
domeMinusPondConcreteArea = domeArea - pondArea;
pondConcreteCost = pondConcreteArea * 37;
domeConcreteCost = domeMinusPondConcreteArea * 27.50
waterVolume = pondArea * 11 (11 is height of water in pond)
seatingArea = domeMinusPondConcreteArea * .5
numSeats = seatingArea/ by 5.5 (floor to whole number)
numSeats = Math.floor(numSeats);
document.write results (remember .toFixed(2)
display:
userFirstName
pondDiameter
domeDiameter
pondConcreteArea
domeMinusPondConcreteArea
pondConcreteCost
domeConcreteCost
waterVolume
numSeats
Stop