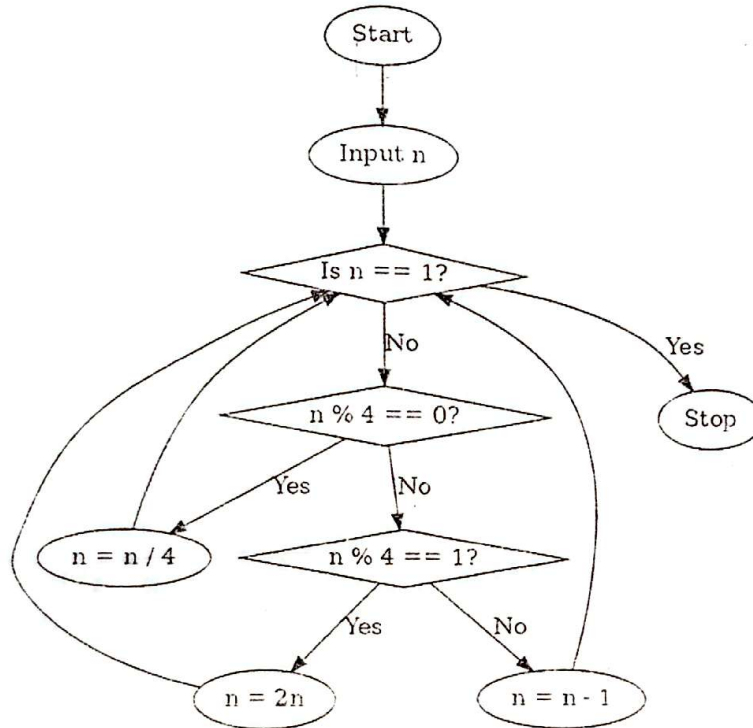


B

Name:		Roll No.:	
Programming Fundamentals			
Quiz 1	Section H	Marks:20	Time: 20 Minutes

Q1: Flowchart Dry Run

Task: Dry run this flowchart for $n = 10$.



Dry Run Table:

n	$n/4$	next n			
10	2	$n = n - 1$			
9	1	$n = 2n$			
18	2	$n = n - 1$			
17	1	$n = 2n$			
34	2	$n = n - 1$			
33	1	$n = 2n$			
.	.	.			
.	.	.			
Hence Infinite Loop					

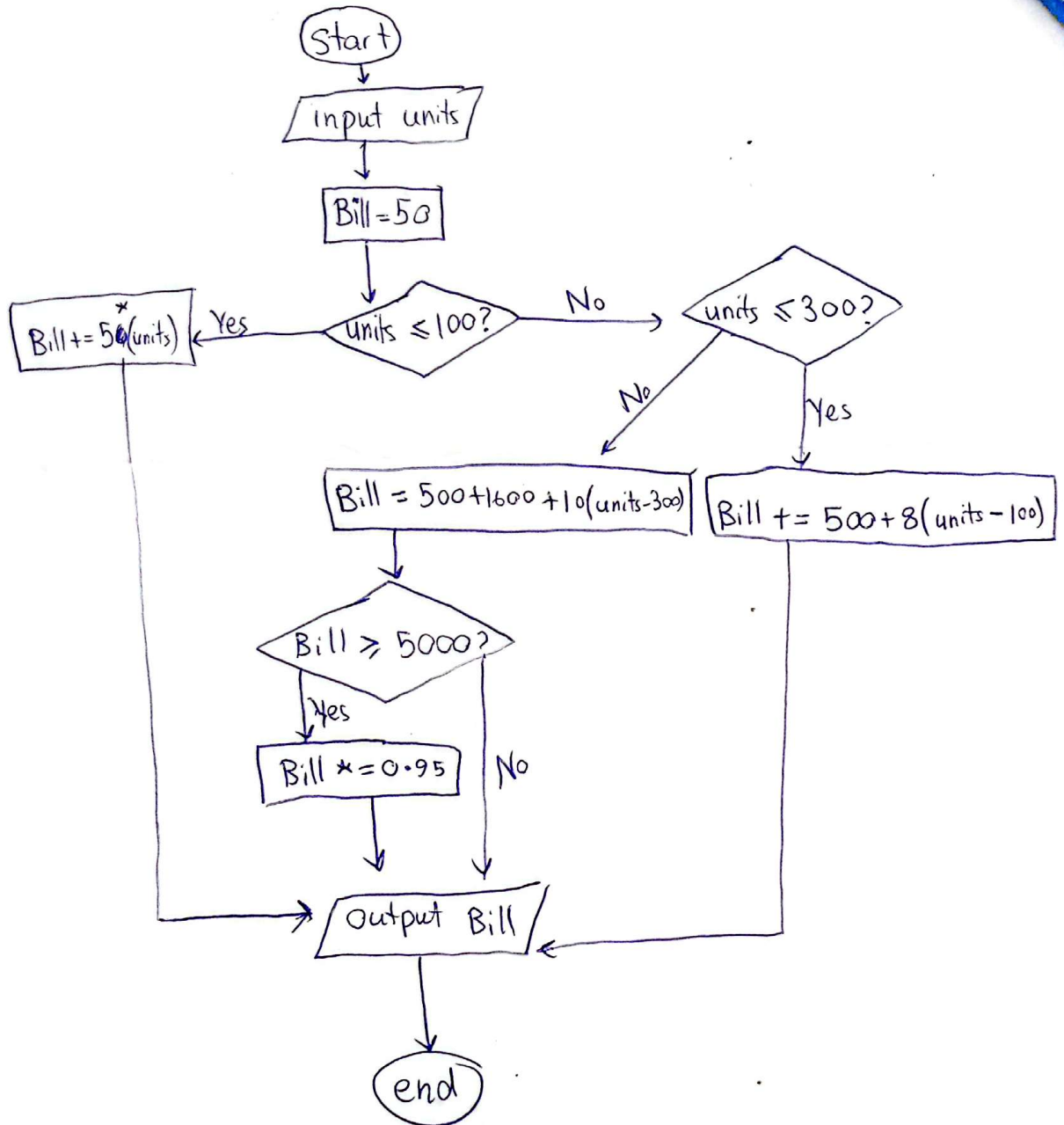
- 5 marks Infinite Loop
- 5 marks Dry Runs

example : 350 units

$$50 + 5(100) + 8(200) + 10(50)$$

Q2: Word Problem

An electricity company charges households based on usage. The first 100 units cost \$5 per unit. Any usage from 101 to 300 units costs \$8 per unit. Beyond 300 units, the cost is \$10 per unit. A fixed service charge of \$50 is added to every bill. Additionally, if the total bill exceeds \$5000, a 5% rebate is applied. Construct a flowchart to calculate the final bill.

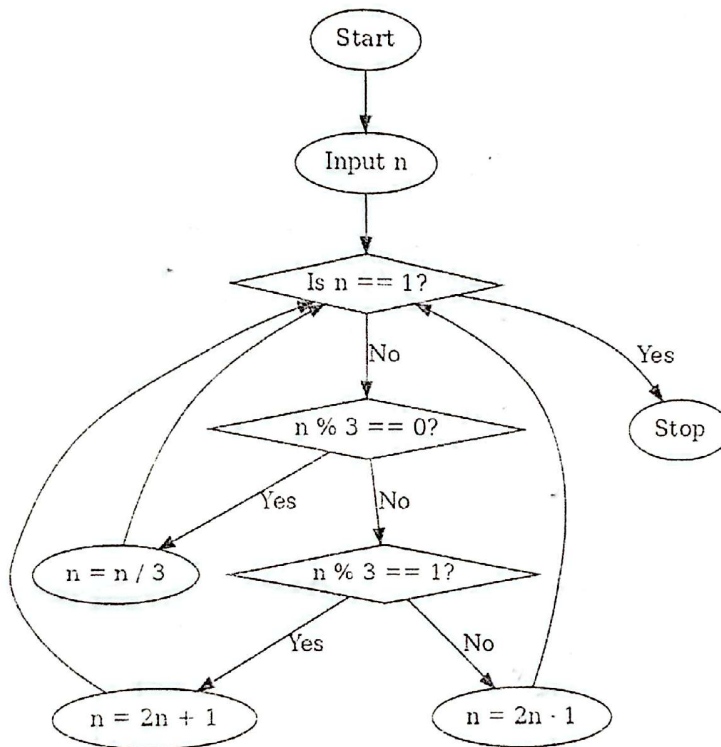


A

Name:		Roll No.:	
Programming Fundamentals			
Quiz 1	Section H	Marks:20	Time: 20 Minutes

Q1: Flowchart Dry Run

Task: Dry run this flowchart for $n = 10$.



Dry Run Table:

iteration	n	operation	operation		
1	10	1	2n-1		
2	21	0			
3	7	1			
4	15	0			
5	5	2			
6	9	0			
7	3	1			

Stop

Q2: Word Problem

A taxi company charges a base fare of \$100. For the first 10 km, the cost is \$20 per km. Beyond 10 km and up to 30 km, the cost is \$15 per km. Beyond 30 km, the cost is \$10 per km. If the ride is at night, the total fare has a 10% surcharge. If the passenger is a registered member, they receive a 5% discount before the surcharge is applied. Design a flowchart to calculate the total fare.

