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PF Lab #04

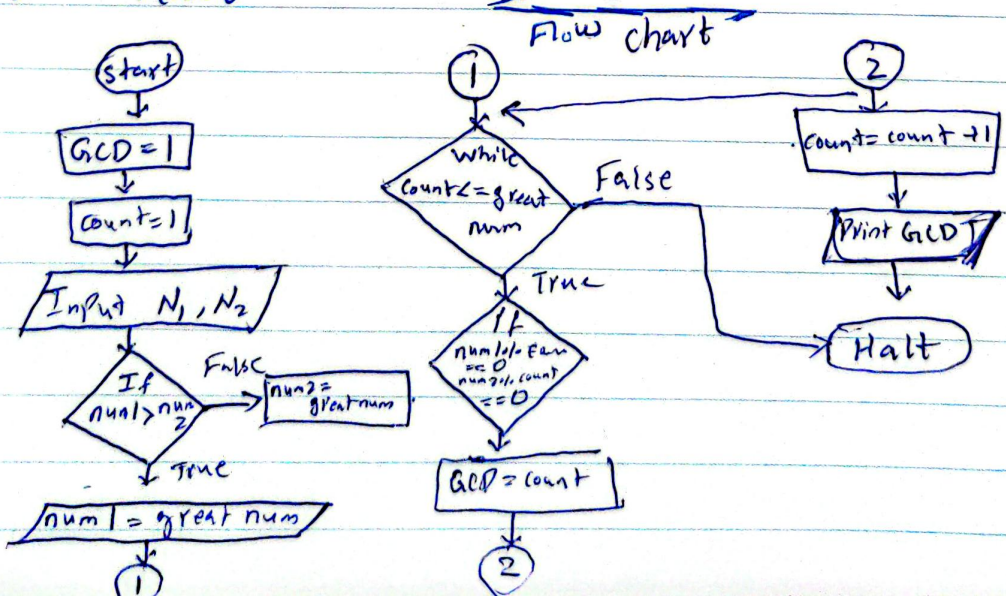
Roll No : 23F-0017

Question# 1

Pseudocode to find greatest common divisor of two given Positive integers.

1-) Start
2-) Input Positive Integer N_1, N_2
3-) GCD = 1
4-) Count = 1
5-) If num1 > num2
5.1) num1 = great num
6-) Else
6.1) num2 = great num
7-) While count <= great num
7.1) if num1 % count == 0 , num2 % count == 0
7.2) Gcd = Count
7.3) Count = Count + 1
8-) Print GCD
9-) Halt

Flow chart



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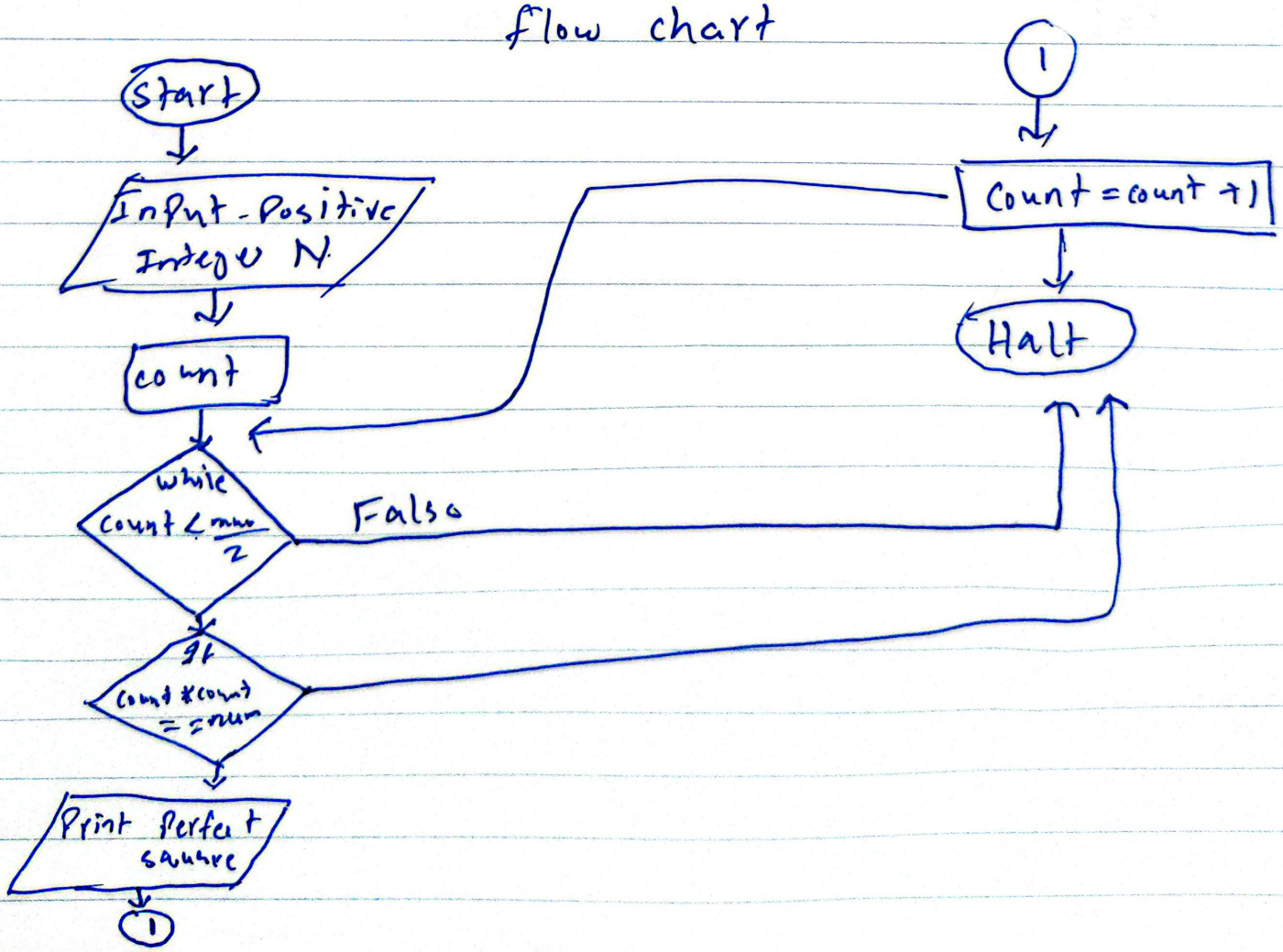
Question#2

Pseudocode to determine given Positive integer is a Perfect square or not.

1-) START
2-) Input Positive Integer N
3-) Count = 0
4-) While Count < num/2
4.1) If count * count = num
4.1.1) Print "perfect square"
4.2) Count = count + 1
5-) Halt

flow chart

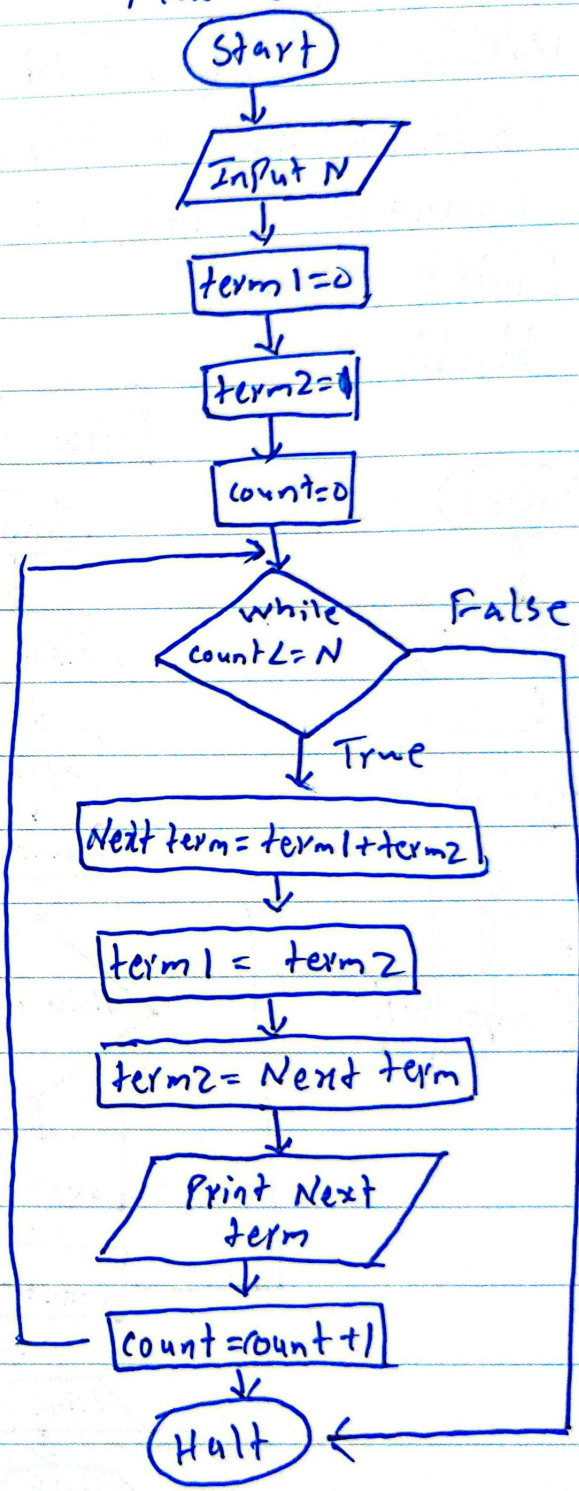


Question #3

Fibonacci series

1-) Start
2-) Input N
3-) term 1 = 0
4-) term 2 = 1
5-) Count = 0
6-) While count <= N
6.1) Next term = term 1 + term 2
6.2) term 1 = term 2
6.3) term 2 = Next term
6.4) Print Next term
6.5) ~~Print Next term~~ Count = count + 1
7-) Halt

Flow chart



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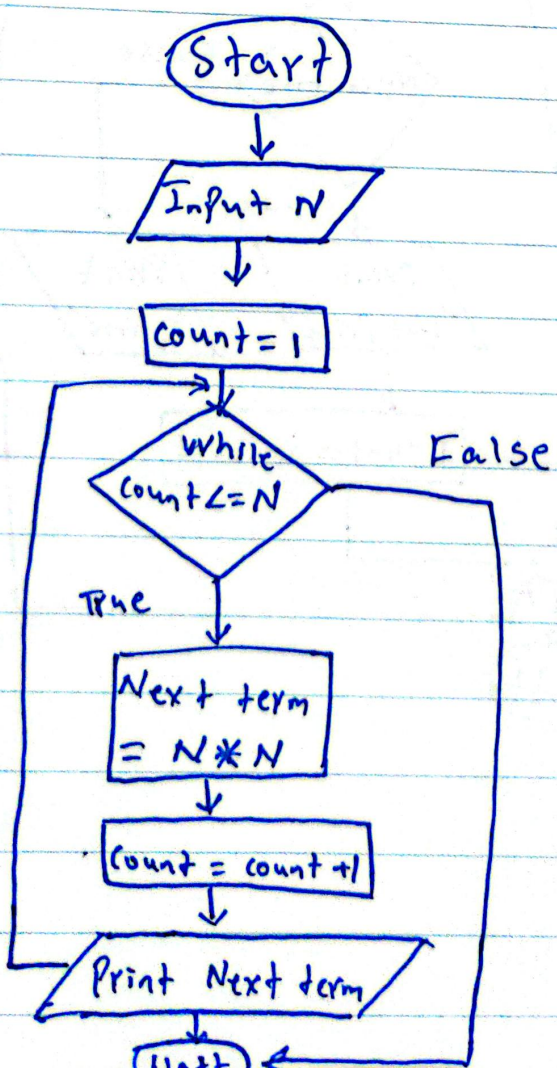
Question #4

Pseudo code to generate first N terms of the series: 1, 4, 9, 16 . . .

1-) Start
2-) Input N
3-) Count = 1
4-) While Count <= N
4.1) Next term = Count + 2
4.2) Count = Count + 2
4.3) Print Next term
5-) Halt

1-) Start
2-) Input N
3-) Count = 1
4-) While Count <= N
4.1) Next term = N * N
4.2) Count = Count + 1
4.3) Print Next term
5-) Halt

Flow chart



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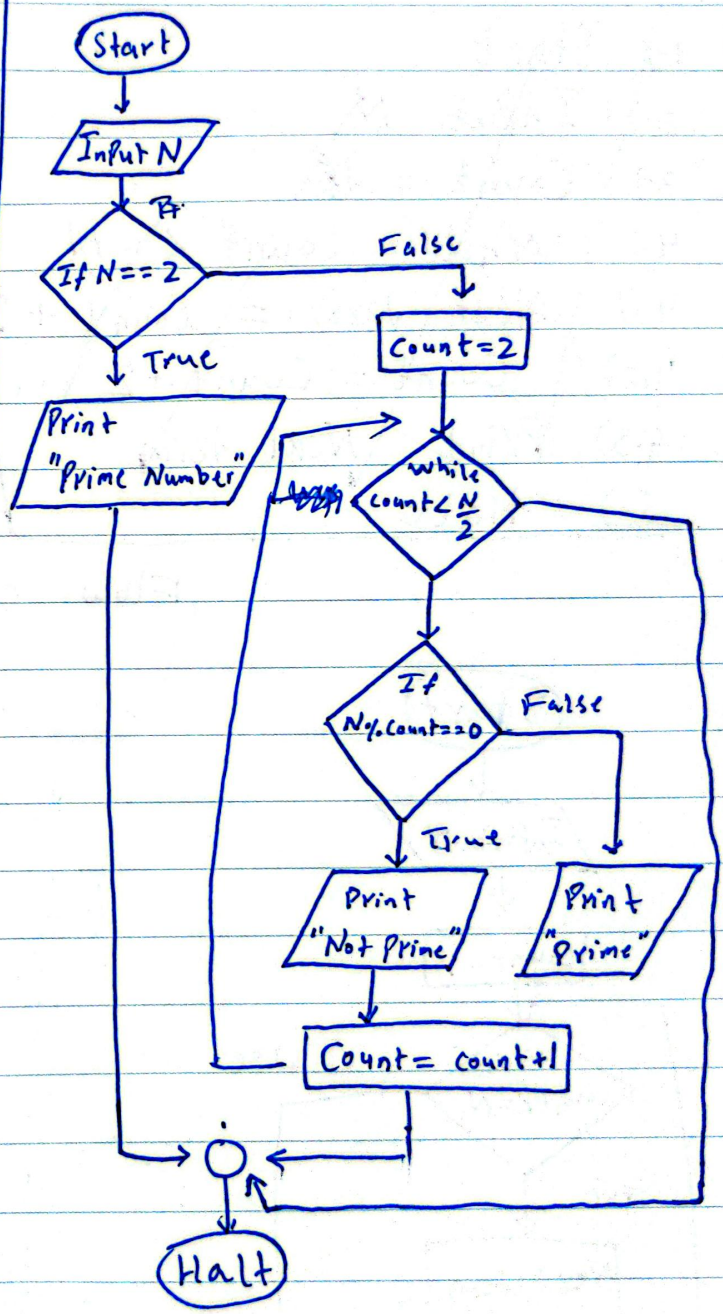
Question #5

Pseudo code to Print first N Prime Numbers.

1-) Start
2-) Input N
3-) If N == 2
3.1.) Print "Prime Number"
4-) Else
4.1) Count = 2
4.2) While count < N/2
4.3) If N % count == 0
4.3.1) Print "Not Prime"
4.4) Else
4.4.1) Print "Prime"
4.5) Count = Count + 1
6-) Halt

Flow chart



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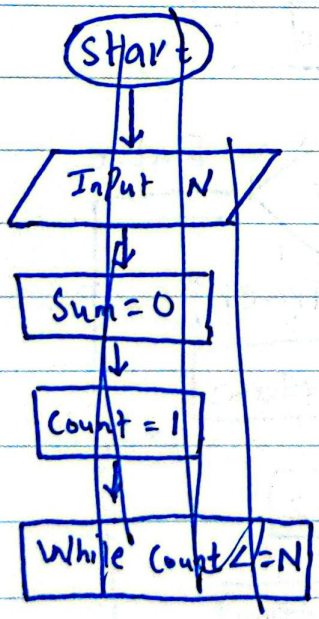
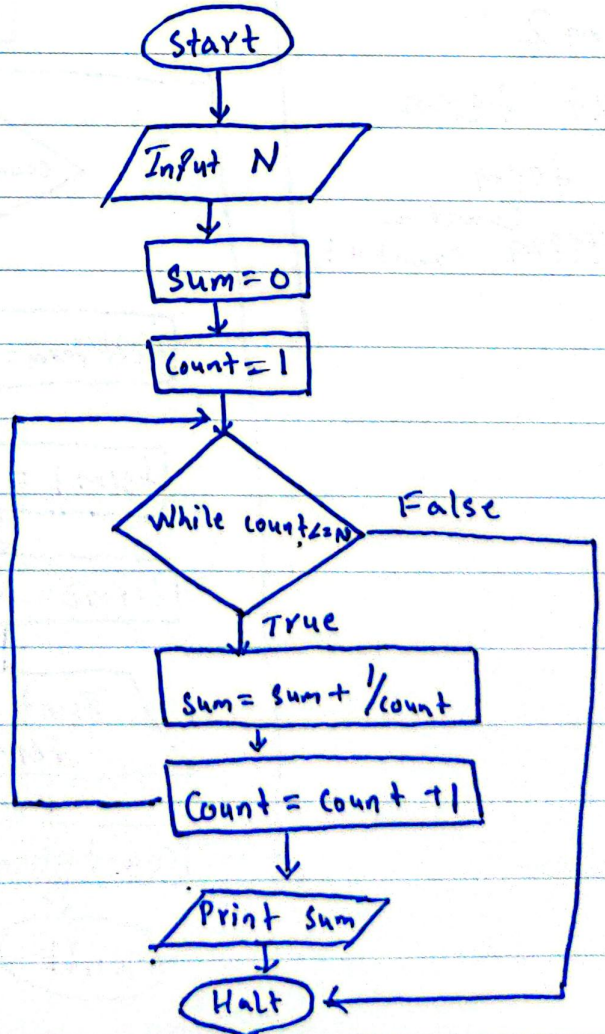
Question #6

Pseudo code to find sum of first N terms of harmonic series $(1 + \frac{1}{2} + \frac{1}{3} + \cdots + \frac{1}{N})$.

1-) Start
2-) Input N
3-) Sum = 0
4-) Count = 1
5-) While Count <= N
5.1) Sum = Sum + 1/count
5.2) Count = Count + 1
6-) Print Sum
7-) Halt



Flow chart



Question#8

Pseudo code to take 'n' number of inputs and count number of even numbers input by user.

1-) Start
2-) Input n
3-) Count = 0
4-) While Count <= n
4.1) Input Num
4.2) If Num % 2 == 0
4.2.1) Count = Count + 1
5-) Print Count
6-) Halt

Flow chart