Karthik Krishnan
S2 CSE-B
ROLL NO: 45

MODULE-1
TUTORIALS-1

Topic: Algorithms and flowcharts

1) Write an algorithm to find out whether it is an even or odd number.

ANS: BEGIN

STEP 1: Read Number.

STEP 2: Calculate remainder = number % 2

STEP 3: If remainder = 0 → The number is even
else → The number is odd

END.

2) Write an algorithm to check the given number is prime or not

Ans: BEGIN

STEP 1: SET READ NUMBER N

STEP 2: Set divisor = 2

STEP 3: If the remainder of number/divisor = 0 then go step 7

STEP 4: Increment divisor

STEP 5: Repeat steps. 3,4 until divisor = number/2

STEP 6: Write "The given number is Prime number"
then go to END.

STEP 7: Write "The given number is not prime number"
then go to END

END.

3) Draw the flow chart to find the largest of three numbers.

Ans:

START

Read Number 1, Number2, Number 3

Number1 > Number2

False

True

Number2 > Number3

True

False

FALSE

Number1 > Number3

True

Print Number 2 is the largest number.

Print Number 3 is the largest number.

Print Number 1 is the largest number.

Stop
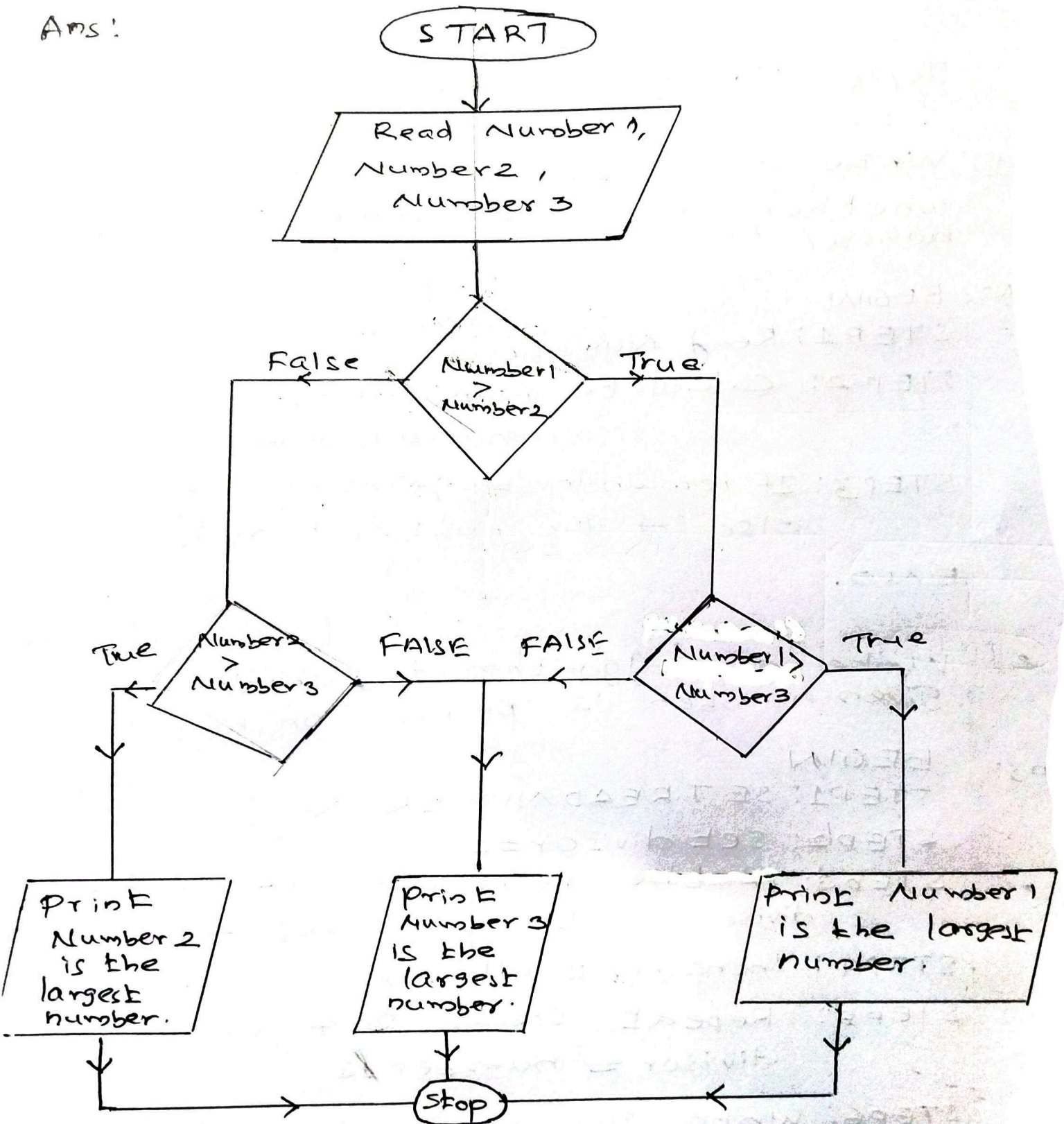
+) Draw the flow chart to finding the sum of digits of a given integer.

Ans:

```
                    ┌─────────────┐
                    │    START    │
                    └──────┬──────┘
                           │
                           ▼
                  ╱──────────────────╲
                 ╱   Read Num(N)       ╲
                 ╲                     ╱
                  ╲──────────────────╱
                           │
                           ▼
                 ┌──────────────────┐
                 │    Sum = 0       │
                 └────────┬─────────┘
                          │
                          ▼
                      ╱╲
                    ╱   if  ╲        FALSE
                  ◄╱   n > 0  ╲──────────────────┐
                   ╲         ╱                   │
                    ╲──────╱                     │
                       │ TRUE                    │
                       ▼                         ▼
  ┌────────────────────────────────┐      ╱─────────────╲
  │  Remainder = n % 10.           │     ╱  Print Sum    ╲
  │  Sum = Sum + remainder         │     ╲───────┬───────╱
  │  n = n / 10.                   │             │
  └────────────────────────────────┘             ▼
                                          ┌─────────────┐
                                          │    STOP     │
                                          └─────────────┘
```