ANS TO Q.4

Integer range [1, 100]

nom = 50

min = 1

max = 100

min$^+$ = 2

max$^-$ = 99

min$^-$ = 0

max$^+$ = 101

BVC = 4n + 1 = 4(1) + 1 = 5

	Integer	Prime
1	1	not prime
2	100	not prime
3	2	prime
4	99	not prime
5	50	not prime

Robust testing = 6n + 1 = 7

6	0	not prime
7	101	prime

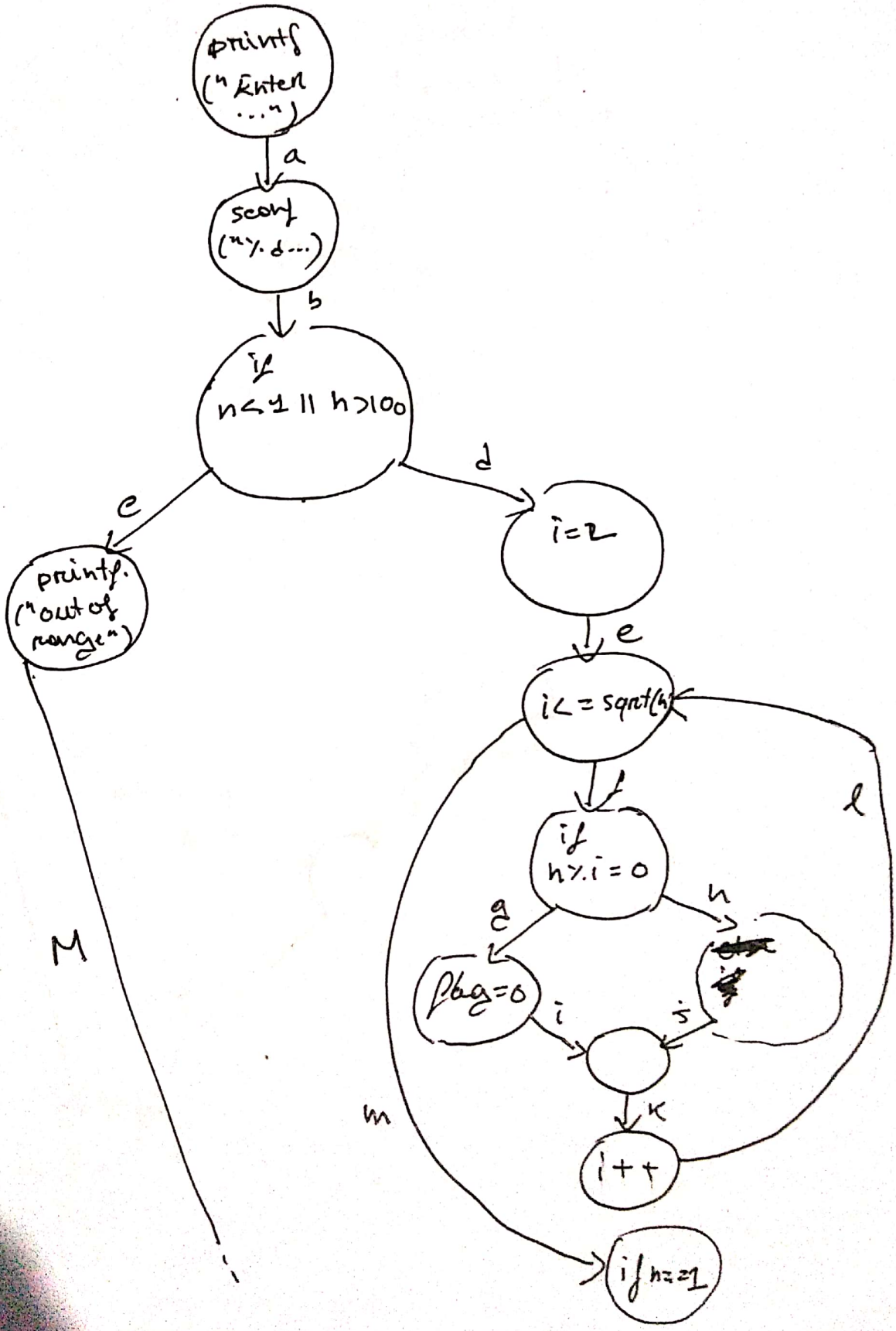
Worst test casing

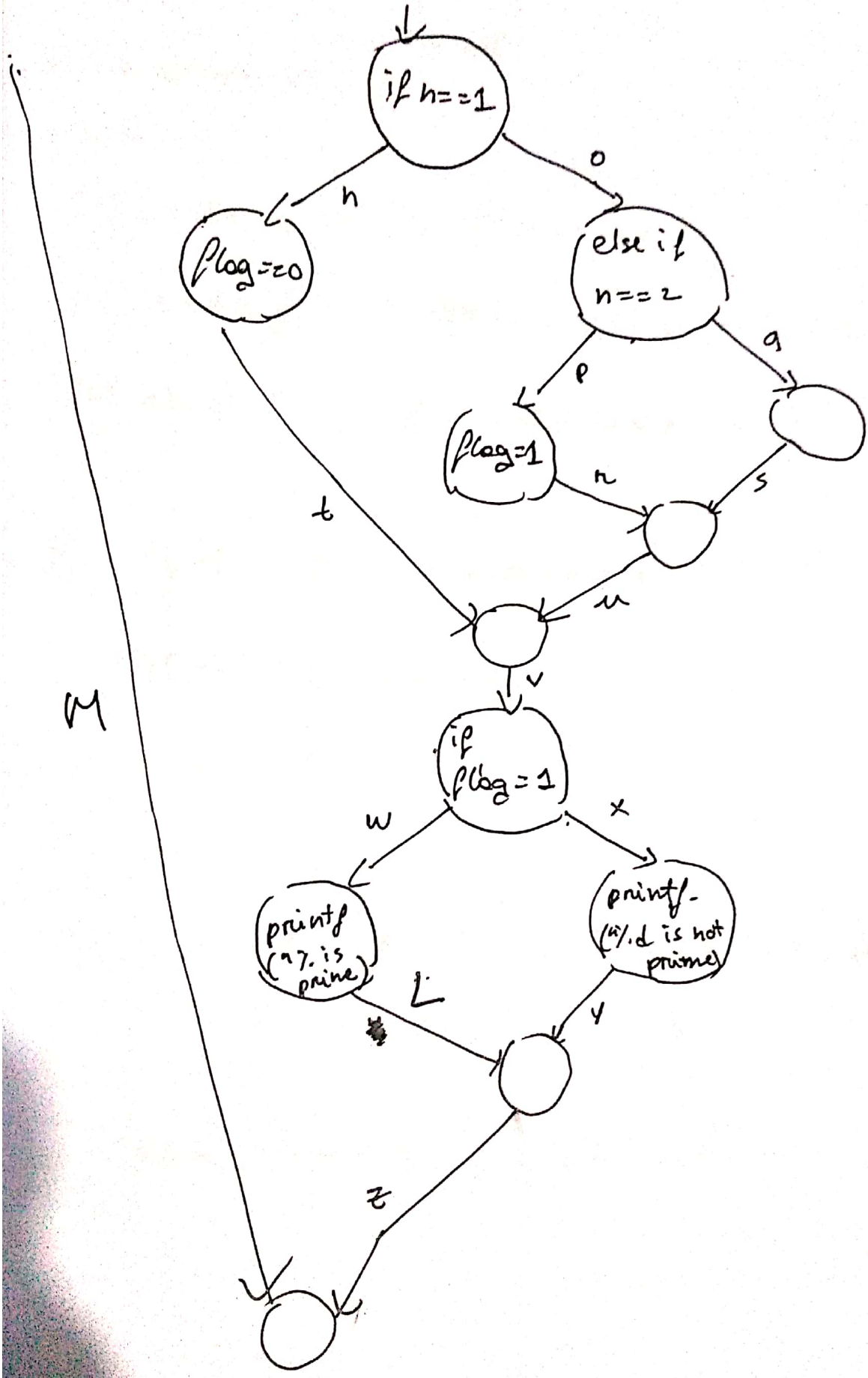
$5^h = 5$ so,

Worst test casing is same as BVC

~~Ans to Q.4~~

Flow control diagram





INDEPENDENT PATH

i) abcM

ii) abdegiklmntvwlz

iii) abdefghklmntvwlz

iv) abdegiklmopruvwlz

v) abdefhjklmoqsuvwlz

vi) abdegiklmntvxyz

Cyclomatic complexity

$V(G) = 28 - 24 + 2 = 6$

$V(G) = 2 - 1 = 1$

$2 - 1 = 1$

$2 - 1 = 1$

$2 - 1 = 1$

$2 - 1 = 1$

$d = 1 + 1 + 1 + 1 + 1 = 5$

$V(G) = d + 1 = 5 + 1 = 6$

$V(G) = \text{regions} = 6$

ANS TO Q.3

General classification

1. External entities
2. things
3. Occurence or events
4. Roles
5. Organizational units
6. Places
7. Structures

noun	General classification	Remarks
Safe Home		
home security system		
undesirable situations	3	✓
fire	2	✓
smoke detectors	1, 2, 7,	✓
window sensor	1, 2, 7	✓
door sensor	1, 2, 7	✓

motion detector	1, 2, 7	✓
alarm	1, 2, 3,	✓
event	2, 3	✓
control panel	2, 5, 4	✓
display	2	✓
telephone number	2	✓
telephone call	2, 3	✓

OBJECT ORIENTED ANALYSIS:

Discard classes for concepts:

NOUN	Discard classes	REMARKS
undesirable & situations	refer to the system as a whole	
fire	too specific	✓
smoke detectors		✓
window sensor		✓
door sensor		✓
motion detector		

alarm		✓
event	too vague	
control panel		✓
display		✓
telephone numbers	~~too specific~~	✓
telephone call	~~too specific~~	✓

COAD'S YOURDON'S CRITERIA

1. Retained information
2. Needed services
3. multiple attributes
4. common "
5. " operations
6. external entities.

NOUN	COAD'S YOURDON'S	REMARKS
smoke detectors	1, 2, 3, 4, 5, 6	✓
window sensor	1, 2, 3, 4, 5, 6	✓
door sensor	1, 2, 3, 4, 5, 6	✓
motion detector	1, 2, 3, 4, 5, 6	✓
alarm	2, 4,	✓
control panel	1, 2, 3, 4, 5.	✓
display	1, 2, 3, 4, 5	✓

telephone numbers	1, 2, 4, 5	
telephone calls	1, 2, 4, 3	

ANS TO Q 1

generic prod	customized prod
produced for the open market	produced for particular customer
include many features	focused on the features customer needs
affordable	costly
need license to be used	owner is the customer
user intalls and tests it itself.	already tested for the customer
made for future updates	made as per the time
highly scalable	architecture balanced between client's requirement and scalability

Software costs more to maintain than to develop:- For systems with a long life, maintenance costs may be several times development costs.

Maintenance mean if the company which developed the software close the company you will be in trouble in maintenance and up-grading the software.

ANS to Q.2

Linear model :- is an SDLC model where execution of process happens in a sequential manner.

Limitation:-

i) if a mistake occurs, you cannot return back

ii) cannot handle changes

V model = is also a sequential manner but is based on the association of a testing phase for each development stage

It is also known as Validation and verification model.

Verification = checking of a product as its phase ~~either~~ it is developed to meet the required specifications

Validation = checking of product if it meets customer demands at the end of development.

Limitation:-

i) cannot handle changes

Daily ~~scrum~~ scrum is held every day because the development team plans work for the next 24h.. This optimizes team collaboration and performance. It reduce time complexity