Cashier Problem:

(2)

Pick $20 x 1 = 20$

Pick $10 x 3 = 30$

Pick $5 x 5 = 25$

Pick 25¢ x 1 = 0.25$

Pick 10¢ x 1 = 0.10$

Pick 5¢ x 1 = 0.05$

Pick 1¢ x 3 = 0.03$

Total = 75.43$

Date:

Example No. 2: [cashier problem]

Answers:

1. Yes, there can be more than one correct answer since we can use different combinations of bills & coins.

2. Goal is to take out the exact amount of $75.43.
Input is the denominations available and their quantities.

3. I first checked the total amount and then looked at the denominations that are available. Then the strategy i thought was to use big bills and coins first.

4. ① total amount needed is $75.43.
② Use the highest denomination available and donot exceed the total amount.
③ Subtract the bills and coins used from total amount.
④ Cross out the denominations used.
⑤ Go onto the next highest denomination available and repeat the process, continue till total amount is reached.

5. Yes, these steps can be applied to make $89.23.

6. Yes, steps used above can be generalized to get the exact change every time.

7. Yes, ① $50 bills: 0, so skip.
② $20 bills * 1, used 1
③ $10 bills * 3, used 3
④ $5 bills * 5, used 5
Total = $20 + $30 + $25 = $75.

⑤ 25¢ * 1, used 1
⑥ 10¢ * 1, used 1
⑦ 5¢ * 1, used 1
⑧ 1¢ * 3, used 3
Total = 75 + 0.25 + 0.10 + 0.05 + 0.03
= $75.43.

PAC chart Q's: Date:

Q.1

Given Data	Required Result
$1 bills = 70	
$2 bills = 1	- Total Amount = $75.43
$5 bills = 5	- Breakdown of denominations used to make up $75.43.
$10 bills = 3	
$20 bills = 1	
$50 bills = 0	
$1¢ coins = 10	
5¢ coins = 5	
10¢ coins = 5	
25¢ coins = 2	
50¢ coins = 150	

Processing Required	Solution Alternatives
- Use 1 x $20 bill = $20	① Identify the largest denominations to reach the total amount.
- Use 3 x $10 bills = $30	② Use smaller denominations available to reach total amount.
- Use 5 x $5 bills = $25	
- Use 1 x 25¢ coin = $0.25	
- Use 1 x 10¢ coin = $0.10	
- Use 1 x 5¢ coin = $0.05	
- Use 3 x 1¢ coin = $0.03	
- Total: $20 + $30 + $25 + $0.25 + $0.10 + $0.05 + $0.03 = $75.43.	

Date:

PAC chart Q's:

Q.2

Given Data	Required Result
n_1	greatest of 3 numbers
n_2	
n_3	
Processing Required	**Solution Alternatives**
→ $n_1 > n_2 = n_1$	① $n_1 > n_2, n_3$
$n_1 > n_3 = n_1$	$n_2 > n_1, n_3$
→ $n_2 > n_1 = n_2$	$n_3 > n_2, n_1$
$n_2 > n_3 = n_2$	
→ $n_3 > n_1 = n_3$	
$n_3 > n_2 = n_3$	

Q.3

Given Data	Required Result
num1 = 1234	sum of digits of ~~number~~ 1234
Processing Required	**Solution Alternatives**
$Sum = 1 + 2 + 3 + 4 = 10$	① Sum of digits

Q.4

Given Data	Required Result
n_1	Prime number or not Prime number
Processing Required	**Solution Alternatives**
~~$n_1 = 1$~~ ~~n_1~~ → factor of n_1 is 1 and n_1 only.	→ factors are number itself and 1 only. → another factor other than 1 and number itself.

Date:

Q.5

Given data	Required Result
$n_1 = 1232$	number is palindrome.
Processing Required	**Solution Alternatives**
→ Reverse the number sequence of n_1, it will be same as n_1, hence no. is palindrome.	① Reversing the number.
→ If reversed no. is not same as n_1, then its not a palindrome.	② checking that from left or right to middle of number.

Q.6

Given data	Required Result
n_1	number is even or odd.
Processing Required	**Solution Alternative**
→ remainder is 0, when $n_1/2$, so even.	① Divisible by 2.
→ remainder is not 0, when $n_1/2$, so odd.	

IPO Qs:

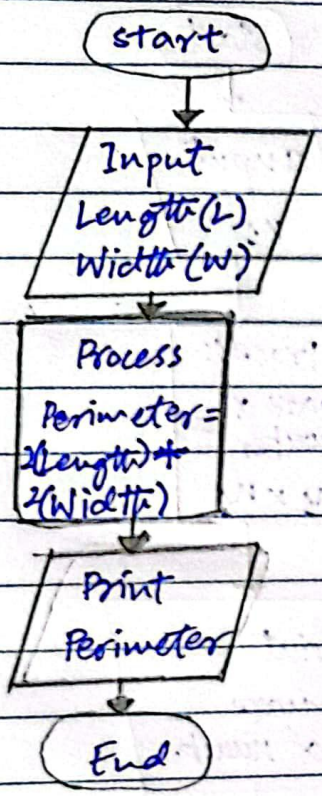
Q.7

Input	Processing	Module Reference	Output
Num 1	1. Enter Num 1.	Read	Even/Odd
Num 2	2. Enter Num 2.	Read	
	3. Multiply both Nos.	Calc	
	4. check even/odd.	Calc.	
	5. Print even/odd.	Print	
	6. End	Even/Odd	

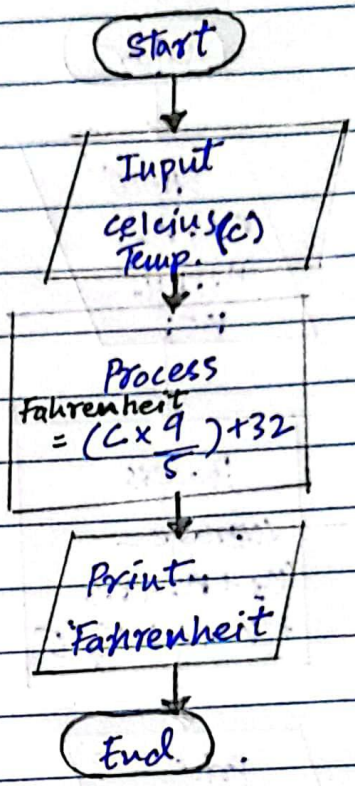
Date:

Flowchart Q's:

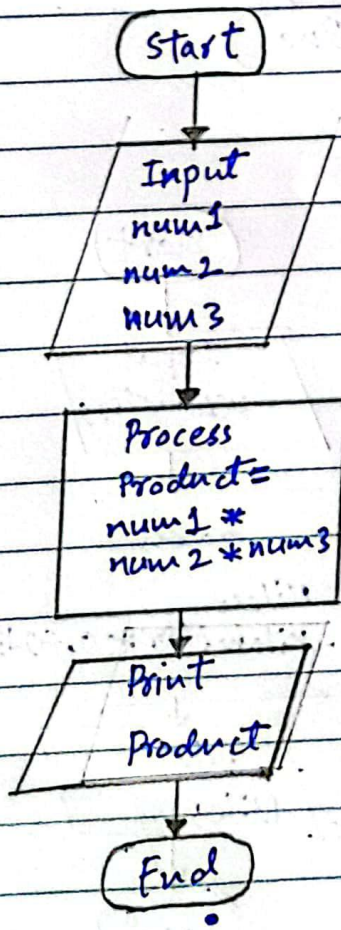
Q.8



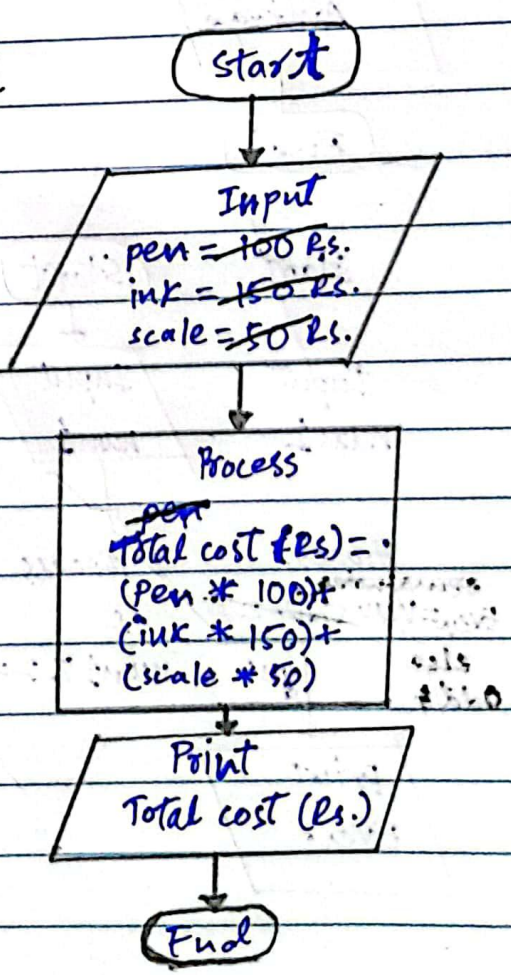
Q.9



Q.10

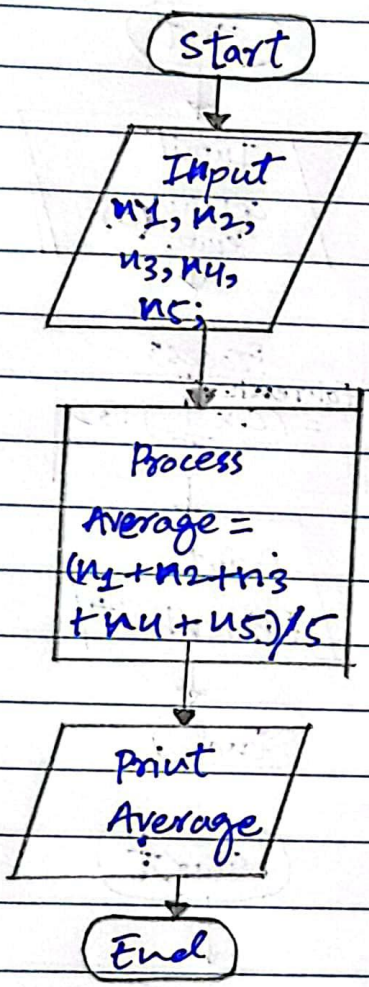


Q.11

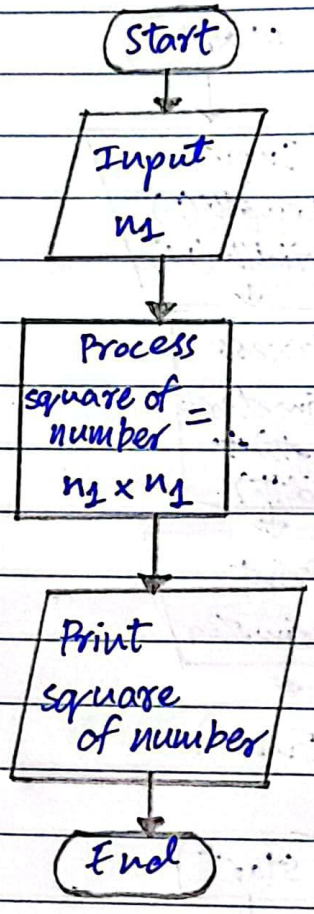


Date:

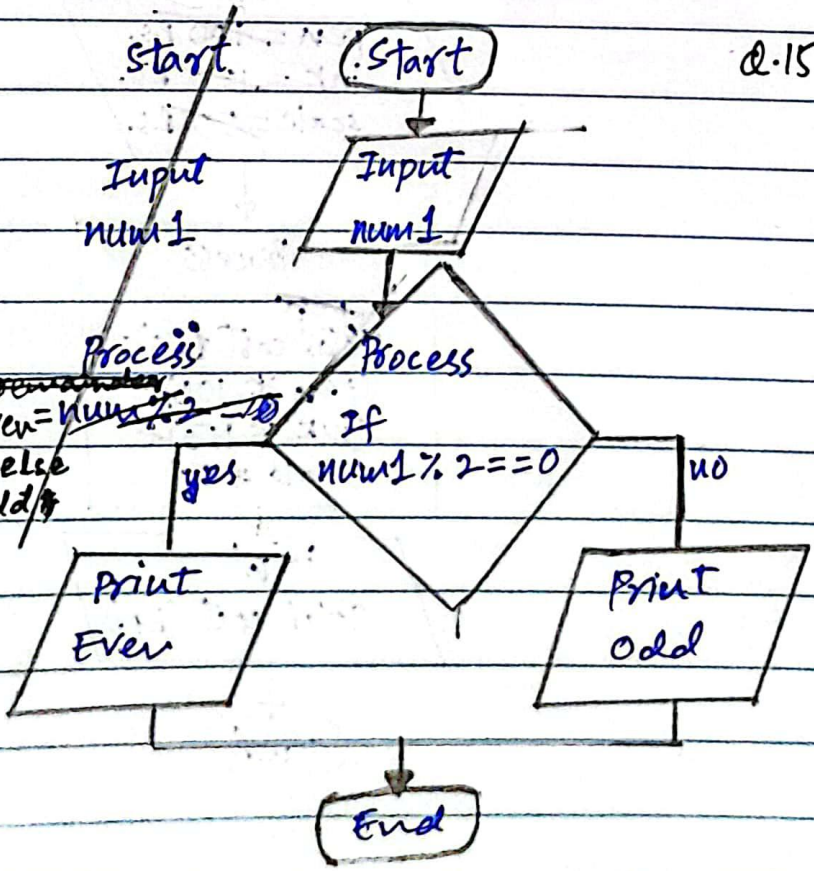
Q.12



Q.13



Q.14



Q.15