# Assignment 1: Algorithm And Flowchart

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**Roll NO.: A-76** 

1. Write an algorithm and design a flowchart to swap two numbers with and without using a temporary variable

Assignment 1: Algaruthms	4 Flanchard.
Suaj two numbers with I Vaniable.	u a blanchard to mithaut third
Algarithm	Flambard
· with lemp Variable	(Start)
1 Take Input a, b from User	/ in a,b/
3 temp= a (a) a = b (b) b = temp	temp=a a=6
a print a, b	b = temp
· unthand temp Variable	(Stop)
1 Stant 1 b from user	(Start)
3) a = a x b (3) b = a/b	In a, b 1
6 print a, b	q= a+b
(F) Stop	b = a/b a = a/b
1	Punt a b
	Start

2. Write an algorithm and draw a flowchart to print the largest number among the entered three numbers.

# **Answer:**

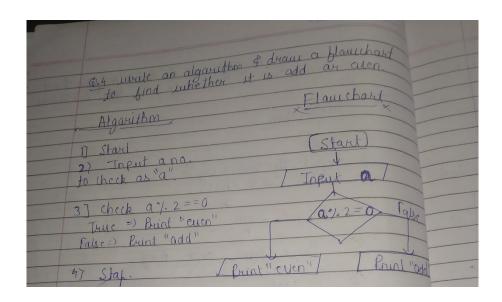
	517%±160
R.2. muite an algo to print largest	within of draw a blauchat
Algarithm	Flauchart
1 Input a, b, C 2 check	(Start)
arb 3) if true	Read a, b, c
Check bre	Truse (ars) False
To truc Print 'a is Largest"   Pr	bruc has False True can
	int "ais   Faunt   Brunt
Ty by by	Largest largest
5 4 arb is	
False  Frint " C is	S Luga said is
Print " Cis	- A
largest"	100
G gy axb is false	100
G gy axb is False f c>b is False bunt "b is largest"	
9	

3. Write an algorithm and draw a flowchart to print the sum and average of first n natural numbers.

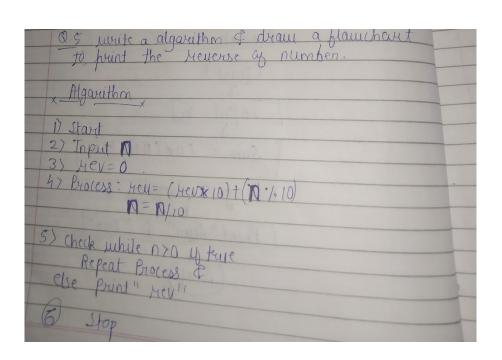
### **Answer:**

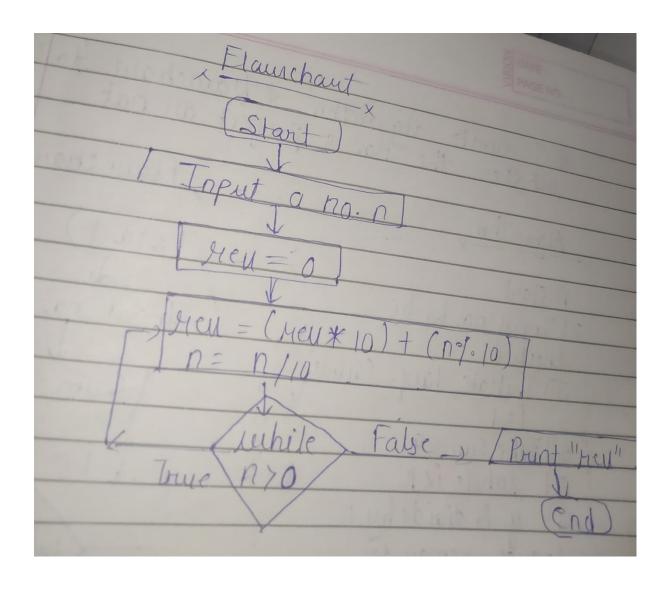
MAGIE NO.
to print sum of aucrage of first natural
Algarithm
D Stard  D Input the Value on n  Sum = (n x (n+1))
(4) Aug = Sum
3 Print Sum and Aug  (3) Stap
Flauchard
(Stant)
I Input n
Sum = (1x(110)/2
Mug Sum/n
Brint " Sum" & "Avg" [

4. Write an algorithm and draw a flowchart to find whether a given number is odd or even



# 5. Write an algorithm and draw a flowchart to print the reverse of a given number.





6. Write an algorithm and draw a flowchart to find whether the given number is the Armstrong number or not. (Num = 153 is Armstrong number as  $1^3 + 5^3 + 3^3 = 153$ ).

Finding whether the green  The (or) nat.	an Handay of
x-mgaruthm x	(Start)
Start  2) Input Me stare, sum-o,  Nin timp. Variable n	Read Na, Sumo
37: while n7=1,	ny=1 table
Sum = Sum+(Hem * Hem) * Hem)	Mem= n.7.10 Sum= Sum+(hem+hemre
Print " arm strong" Tru	e ij N== Sum False
else, Print" Nat Armstron  armstrong"	

7. Write an algorithm and draw a flowchart to check whether the given number is perfect number or not. The perfect number is one that equals to the sum of its divisors (excluding number itself). 28 = 1+2+4+7+14; 6 = 1+2+3.

0.5)	DATE: PAGE NO
luber write along	within of blanchart to check is perfect our nat.
the no	it Paul auchart to check
Algarithm	Torject ar nat.
	- Flam chard
1) Start	(start)
2) Input no to be therked	
37 Initiate laup Count	In Input no. to be theaper
	Sum=0
4) Take Sum=0	TAMM = ()
6 y N divide by i	
5] ruhile ix M 6 y N divide by I leaves remainden	
then print if i=it!  y not then mave  to i=it!	Luhilc ich
to i = i + 1	
7] Sum = Sum ti	Nº101=0
P J Sum = N	C
else Print Vo.	Sum-Sumt1
BJ I Sum = N  Bunt perfect No.  Clse, Print " Nat  Purplet No.	1=1+1
TWO.	
g) Stap.	
	Sum= N
1 Print" Nis Perf	
	Porpedio.
	Per call
	CI Pello.
	2100 6

8. The current year and the year in which the employee joined the organization are entered through the keyboard. If the number of years for which the employee has served the organization is greater than 3, then a bonus of Rs. 2500/- is given to the employee. If the years of service are not greater than 3, then the program should do nothing. Write an algorithm and draw a flowchart for this problem.

=> Algarithm	
	1. Flankhank y
1) start	(Start)
2) Input the current	CANANA J
year of Jaining year	Topul wound year
	and jaining year
3) Stare It in a &	as a and bruse
b respectively	
	yes ( is (a-6)23)
9 Campul (a-b),	
ij (a-b) 73	
Gampul (a-b),  ij (a-b) 73  Print banaus	Print banans the
cy ₹2500/-	9 825601- 1 101
Telco Diod	
5) else Print "No Banus"	1
No Banus	Sta
6) Stap	
1	
962	

9. While purchasing certain items, a discount of 10% is offered if the quantity purchased is more than 1000. If the quantity and price per item are input through the keyboard, write an algorithm and draw a flowchart to calculate the total expenses.

AL LAND	
to to the appearer	d if the quantity purchased.  1000. 96 the quantity of weight through Keyboard flauchart to calculate
Pur mare than	1000 91 the quantity principales.
write of the tem	we while through Keybarne
total subsection	flauchart to talulate
x. Algarithm x	flam chart
17 Chard	(cha. +)
2) Input Price Lidana	(stard)
1) Stard 2) Infut Price/ interm Stancit in Variable P	Input Price liter I-
	HERE SALES
3) Declare tas tatal	Acclare it as  tatal expenses
	Latar expenses
4) Input Quantity & Han it in q Variable.	e Toput Quality
4 10 g Variable.	e Input analy 1
5) theik & a. 71000	
5) check of 9, 7 1000	
(0)	70 92000 NO
Calculate += 9 (P+q)	
and Print t	t=9 (P*9) t= (P*9)
	10 t (P*a)
To No than p. 1	
To No then Bring	
1	
1 Stop.	Proplet
	(Stop)

10. In a company an employee is paid as under: If his basic salary is less than Rs. 150000, then HRA = 20% of basic salary and DA = 95% of basic salary. If his salary either equal to or above Rs.150000, then HRA = Rs.25000 and DA = 87% of basic salary. If the employee' s salary is input through the keyboard write an algorithm and draw a flow chart to find his gross salary. Note: GrossSalary = BasicSalary + HRA + DA

