Operator Related Problems

(Total 15 questions)

SL		Problem statement	Difficulty levels
1.	Program that will take two numbers X and Y as inputs, then calculate and print the values of their addition, subtraction, multiplication, division (quotient and reminder).		
	Sample input (X,Y)	Sample output	<u>└</u> ┐
	5 10	Addition: 15 -14 % 3 = -2	
		Multiplication: 50 Quotient: 0	
		Reminder: 5	
	-5 10.5	Addition: 5.5 Subtraction: -15.5	
		Multiplication: -52.5	
		Quotient: 0	
		Reminder: -48	
2.	Program that will calculate the o	circumference of a circle having radius r. Area, A = 2 * Pi * r	*
	Sample input (r)	Sample output	
	5	Area: 31.4	
	10.5	Area: 65.94	
3.	1	bers (a, b) as inputs and compute the value of the equation	*
	- (Without using math.h) X = (3.31)	* a ² + 2.01 * b ³) / (7.16 * b ² + 2.01 * a ³)	
	Sample input (a, b)	Sample output	
	5 10.5	X = 2.315475	
	100 -250	X = -12.766287	
			<u> </u>

Sample input(X)	Sample output	
5	X++: 5	
	++X: 6	
	X: 5	
	X : 4	
-5	X++: -5	
	++X: -4	
	X: -5	
	X : -6	
Program that will inci	ement and decrement a number \mathbf{X} by \mathbf{Y} . (Use += a	and -= operators)
Sample input(X,Y)	Sample output	
5 10	Incremented Value: 10	1
	Decremented Value: -5	
-5 5	Incremented Value: 0	
	Incremented Value: 0 Decremented Value: -1 iply and divide a number X by Y . (Use *= and /= 6	0
	iply and divide a number X by Y . (Use *= and /= o	0
Program that will mu Sample input(X,Y) 56 10	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= a Sample output Multiplication: 560 Division: 5	0
Program that will mu Sample input(X,Y)	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= a Sample output Multiplication: 560 Division: 5 Multiplication: 560	0
Program that will mu Sample input(X,Y) 56 10	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= a Sample output Multiplication: 560 Division: 5	0
Program that will mu Sample input(X,Y) 56 10 -56 -10 Program that will decomposite the second se	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= a	operators)
Program that will mu Sample input(X,Y) 56 10 -56 -10 Program that will decoperform floating to in	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= o Sample output Multiplication: 560 Division: 5 Multiplication: 560 Division: 5 are and initialize an integer and a floating point reger and integer to floating conversions using	operators)
Program that will mu Sample input(X,Y) 56 10 -56 -10 Program that will decorporam floating to in (a) Assignment of	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= o Sample output Multiplication: 560 Division: 5 Multiplication: 560 Division: 5 are and initialize an integer and a floating point reger and integer to floating conversions using	operators)
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Program that will mu Sample input(X,Y) 56 10 -56 -10 Program that will december form floating to in (a) Assignment of (b) Type casting	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= o Sample output Multiplication: 560 Division: 5 Multiplication: 560 Division: 5 are and initialize an integer and a floating point reger and integer to floating conversions using eration	operators)
Program that will mu Sample input(X,Y) 56 10 -56 -10 Program that will decepted perform floating to in (a) Assignment of (b) Type casting Sample input	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= a	operators) number. Then it will produces 123 es -150.000000
Program that will mu Sample input(X,Y) 56 10 -56 -10 Program that will decepted perform floating to in (a) Assignment of (b) Type casting Sample input	Decremented Value: -1 iply and divide a number X by Y. (Use *= and /= o Sample output Multiplication: 560 Division: 5 Multiplication: 560 Division: 5 are and initialize an integer and a floating point reger and integer to floating conversions using eration Sample output Assignment: 123.125000 assigned to an int	operators) number. Then it will produces 123 es -150.000000

9. Program that will evaluate the following equations - $X = a - b / 3 + c * 2 - 1$ $Y = a - (b / (3 + c) * 2) - 1$ $Y = a - ((b / 3) + c * 2) - 1$ $Y = a - ((b / 3) + c * 2) - 1$ Sample input (a, b, c) Sample output $Y = a - a / a / b / a / b / c / a / c / a / c / c / c / a / c / c$			Cample autrust		
9. Program that will evaluate the following equations - $X = a - b / 3 + c * 2 - 1$ $Y = a - (b / (3 + c) * 2) - 1$ $Z = a - ((b / 3) + c * 2) - 1$ $Z = a - ((b / 3) + c * 2) - 1$ $Z = a - ((b / 3) + c * 2) - 1$ Sample input (a, b, c) Sample output $X = 10$ $Y = 4$ $Z = -1$ 10. Program that will take a, b & c as inputs and decide if the statements are True (1) of False (0) a) $(a + b) \le 80$ b) $! (a + c)$ c) $a! = 0$ Sample input (a, b, c) Sample output a) 10 -10 0		Sample input (x, y)	Sample output		
9. Program that will evaluate the following equations - $X = a - b / 3 + c * 2 - 1$ $Y = a - (b / (3 + c) * 2) - 1$ $Z = a - ((b / 3) + c * 2) - 1$ $Z = a - ((b / 3) + c * 2) - 1$ $Z = a - ((b / 3) + c * 2) - 1$ Sample input (a, b, c) Sample output $X = 10$ $Y = 4$ $Z = -1$ 10. Program that will take a, b & c as inputs and decide if the statements are True (1) of False (0) a) $(a + b) \le 80$ b) $! (a + c)$ c) $a! = 0$ Sample input (a, b, c) Sample output a) 1 b) 0 c) 1 11. Program that will take a, b & c as inputs and decide if the statements are True (1) of False (0) 11. Program that will take a, b & c as inputs and decide if the statements are True (1) of False (1) $(a + b) \le 80$ & $b \ge 0$ c) $(a - b) = 0$ $ c = 0$ 3) $a! = b c (b < a) & b \ge 0$ Sample input (a, b, c) Sample output 10 -10 0 Sample output 11 0					
Sample input (a, b, c) Sample output		30 -20	IVIAX. 30		
	9.	Program that will evaluate the foll	owing equations -	*	
Sample input (a, b, c) Sample output $X = 10$ $Y = 4$			X = a - b / 3 + c * 2 - 1		
Sample input (a, b, c) Sample output $Y = 10$ $Y = 4$ $Z = -1$					
10. Program that will take a , b & c as inputs and decide if the statements are True (1) of False (0) a) $(a+b) \le 80$ b) $!(a+c)$ c) $a! = 0$ Sample input (a, b, c) 10 -10 0 3 1 b) 0 c) 1 Program that will take a , b & c as inputs and decide if the statements are True (1) of False (0) 11. Program that will take a , b & c as inputs and decide if the statements are True (1) of False (0) 12. $(a-b) = 0$ $ c! = 0$ 33. $a! = b$ $ (b < a) & c > 0$ Sample input (a, b, c) Sample input (a, b, c) Sample output 10 -10 0 Sample output 11 0 -10 0		Z	= a - ((b/3) + c*2) - 1		
10. Program that will take \mathbf{a} , \mathbf{b} & \mathbf{c} as inputs and decide if the statements are True (1) of False (0) a) $(a+b) \leq 80$ b) $!(a+c)$ c) $a! = 0$ Sample input $(\mathbf{a}, \mathbf{b}, \mathbf{c})$ 10 -10 0 3) 1 b) 0 c) 1 Program that will take \mathbf{a} , \mathbf{b} & \mathbf{c} as inputs and decide if the statements are True (1) of False (0) 1) $(a+b) \leq 80$ && $b \geq 0$ 2) $(a-b) = 0$ $ c = 0$ 3) $a! = b$ $ c = 0$ 3) $a! = b$ $ c = 0$ 3) $a! = b$ $ c = 0$ 10 -10 0 Sample input $(\mathbf{a}, \mathbf{b}, \mathbf{c})$ Sample output 11 0 -10 0					
2 = -1 10. Program that will take \mathbf{a} , \mathbf{b} & \mathbf{c} as inputs and decide if the statements are True (1) of False (0) a) $(a+b) \leq 80$ b) $!(a+c)$ c) $a! = 0$ Sample input $(\mathbf{a}, \mathbf{b}, \mathbf{c})$ 10 -10 0 3) a 1 b) 0 c) 1 Program that will take \mathbf{a} , \mathbf{b} & \mathbf{c} as inputs and decide if the statements are True (1) of False (0) 1) $(a+b) \leq 80$ && $b \geq 0$ 2) $(a-b) = 0$ $ c = 0$ 3) $a! = b$ $ (b < a)$ && $c > 0$ Sample input $(\mathbf{a}, \mathbf{b}, \mathbf{c})$ 10 -10 0 Sample output 1) 0		9 12 3			
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11. Program that will take a , b & c as inputs and decide if the statements are True (1) of False (0) 11. $(a+b) \le 80 & b \ge 0$ 12. $(a+b) \le 80 & b \ge 0$ 23. $(a+b) \le 80 & b \ge 0$ 24. $(a+b) \le 80 & b \ge 0$ 25. $(a-b) = 0 c! = 0$ 36. $(a+b) \le 80 & b \ge 0$ 37. $(a+b) \le 80 & b \ge 0$ 38. $(a+b) \le 80 & b \ge 0$ 29. $(a-b) = 0 c! = 0$ 30. $(a+b) \le 80 & b \ge 0$ 31. $(a+b) \le 80 & b \ge 0$ 32. $(a-b) = 0 c! = 0$ 33. $(a+b) \le 80 & b \ge 0$ 34. $(a+b) \le 80 & b \ge 0$ 35. $(a+b) \le 80 & b \ge 0$ 36. $(a+b) \le 80 & b \ge 0$ 37. $(a+b) \le 80 & b \ge 0$ 48. $(a+b) \le 80 & b \ge 0$ 49. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 41. $(a+b) \le 80 & b \ge 0$ 42. $(a-b) = 0 c! = 0$ 43. $(a+b) \le 80 & b \ge 0$ 44. $(a+b) \le 80 & b \ge 0$ 45. $(a+b) \le 80 & b \ge 0$ 47. $(a+b) \le 80 & b \ge 0$ 48. $(a+b) \le 80 & b \ge 0$ 49. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 41. $(a+b) \le 80 & b \ge 0$ 42. $(a-b) = 0 c! = 0$ 43. $(a+b) \le 80 & b \ge 0$ 44. $(a+b) \le 80 & b \ge 0$ 45. $(a+b) \le 80 & b \ge 0$ 47. $(a+b) \le 80 & b \ge 0$ 48. $(a+b) \le 80 & b \ge 0$ 49. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 41. $(a+b) \le 80 & b \ge 0$ 42. $(a+b) \le 80 & b \ge 0$ 43. $(a+b) \le 80 & b \ge 0$ 44. $(a+b) \le 80 & b \ge 0$ 45. $(a+b) \le 80 & b \ge 0$ 47. $(a+b) \le 80 & b \ge 0$ 48. $(a+b) \le 80 & b \ge 0$ 49. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le 80 & b \ge 0$ 41. $(a+b) \le 80 & b \ge 0$ 42. $(a+b) \le 80 & b \ge 0$ 43. $(a+b) \le 80 & b \ge 0$ 44. $(a+b) \le 80 & b \ge 0$ 45. $(a+b) \le 80 & b \ge 0$ 47. $(a+b) \le 80 & b \ge 0$ 48. $(a+b) \le 80 & b \ge 0$ 49. $(a+b) \le 80 & b \ge 0$ 40. $(a+b) \le $					
a) $(a+b) \le 80$ b) $!(a+c)$ c) $a! = 0$ Sample input (a, b, c) Sample output 10 -10 0 a) 1 b) 0 c) 1 Program that will take a, b & c as inputs and decide if the statements are True (1) of False (0) 1) $(a+b) \le 80 \&\& b \ge 0$ 2) $(a-b) = 0 \mid c = 0$ 3) $a! = b \mid (b < a) \&\& c > 0$ Sample input (a, b, c) Sample output 10 -10 0 1) 0	10.		nputs and decide if the statements are True (1) of False	**	
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Program that will take a , b & c as inputs and decide if the statements are True (1) of False (0) 1) $(a+b) \le 80 \&\& b \ge 0$ 2) $(a-b) == 0 \mid \mid c! = 0$ 3) $a! = b \mid \mid (b < a) \&\& c > 0$ Sample input (a, b, c) 1) 0 Sample output 10 -10 0 1) 0			· · · · · · · · · · · · · · · · · · ·		
(0) $1) (a+b) \leq 80 \&\& b \geq 0$ $2) (a-b) == 0 \mid \mid c \mid = 0$ $3) a! = b \mid \mid (b < a) \&\& c > 0$ Sample input (a, b, c) Sample output $10 -10 0$ $1) 0$			c) 1		
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1) $(a+b) \le 80 \&\& b \ge 0$ 2) $(a-b) == 0 \mid \mid c! = 0$ 3) $a! = b \mid \mid (b < a) \&\& c > 0$ Sample input (a, b, c) Sample output 10 -10 0 1) 0	11.	•	nputs and decide if the statements are True (1) of False	***	
2) $(a - b) == 0 c! = 0$ 3) $a! = b (b < a) \& \& c > 0$ Sample input (a, b, c) Sample output 10 -10 0 1) 0	_) (, ,) < 00 0 0 1 > 0		
3) $a! = b \mid \mid (b < a) \&\&c > 0$ Sample input (a, b, c) Sample output 10 -10 0 1) 0		• • • • • • • • • • • • • • • • • • • •			
Sample input (a, b, c) Sample output 10 -10 0 1) 0					
10 -10 0 1) 0					
Z) 1		10 -10 0	,		
3) 1		l I	2) 1		

	Drogram that will take calcu	late the vector of a guardinatic equation (e.g. h.y., e.g. O) from	***
2.	the formula, (here, dot (.) st	late the roots of a quadratic equation $(a.x^2 + b.x + c = 0)$ from	
	the formula, (fiere, dot (.) st	ands for multiplication) -	
	$-\mathbf{b} \pm \operatorname{sqrt}(\mathbf{b}^2 -$	4. a. c)	
	$\mathbf{root} = \frac{-\mathbf{b} \pm \mathbf{sqrt}(\mathbf{b}^2 - \mathbf{b}^2)}{2.\mathbf{a}}$		
	Sample input (a, b, c)	Sample output	
	2 4 -16	2.00 -4.00	
	1 2 3	Imaginary	
3.	Program that will evaluate t $2\cos^2 x - \sqrt{3}\sin x + \sin\frac{3}{2}$; where $\cos^2 x = \sin^2 x$		***
	Sample input (x)	Sample output	
	30	1.810066	
	120	0.778151	
14.			
4.	A = Value B = Value	ating point number X as input and evaluate A,B,C where- when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X	**
4.	A = Value B = Value C = Absol	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X	**
4.	A = Value B = Value C = Absol Sample input(X)	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output	**
4.	A = Value B = Value C = Absol Sample input(X) 10.6	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output A = 11, B = 10, C = 10.6	**
4.	A = Value B = Value C = Absol Sample input(X)	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output	**
	A = Value B = Value C = Absolution Sample input(X) 10.6 -77.9	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output A = 11, B = 10, C = 10.6	**
	A = Value B = Value C = Absolution Sample input(X) 10.6 -77.9	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output A = 11, B = 10, C = 10.6 A = 78, B = 77, C = 77.9	
5.	A = Value B = Value C = Absolution Sample input(X) 10.6 -77.9 Program to find size of int, for the state of the state	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output A = 11, B = 10, C = 10.6 A = 78, B = 77, C = 77.9 Cloat, double and char of the system.	
	A = Value B = Value C = Absolution Sample input(X) 10.6 -77.9 Program to find size of int, for the state of the state	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output A = 11, B = 10, C = 10.6 A = 78, B = 77, C = 77.9 Sample output Size of int in byte(s) = 4 Size of float in byte(s) = 4	
	A = Value B = Value C = Absolution Sample input(X) 10.6 -77.9 Program to find size of int, for the state of the state	when X is rounded up to the nearest integer when X is rounded down to the nearest integer ute value of X Sample output A = 11, B = 10, C = 10.6 A = 78, B = 77, C = 77.9 Sample output Size of int in byte(s) = 4	