

Loop related problems (total 20 questions)

SL	Problem statement	Difficulty levels														
1.	<p>Write a program (WAP) that will print following series upto Nth terms.</p> <p style="text-align: center;">1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><i>Sample input</i></th><th style="text-align: center;"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td style="text-align: center;">2</td><td style="text-align: center;">1, 2</td></tr> <tr> <td style="text-align: center;">5</td><td style="text-align: center;">1, 2, 3, 4, 5</td></tr> <tr> <td style="text-align: center;">11</td><td style="text-align: center;">1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	2	1, 2	5	1, 2, 3, 4, 5	11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	*						
<i>Sample input</i>	<i>Sample output</i>															
2	1, 2															
5	1, 2, 3, 4, 5															
11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11															
2.	<p>Write a program (WAP) that will print following series upto Nth terms.</p> <p style="text-align: center;">1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><i>Sample input</i></th><th style="text-align: center;"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td style="text-align: center;">2</td><td style="text-align: center;">1, 3</td></tr> <tr> <td style="text-align: center;">5</td><td style="text-align: center;">1, 3, 5, 7, 9</td></tr> <tr> <td style="text-align: center;">11</td><td style="text-align: center;">1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	2	1, 3	5	1, 3, 5, 7, 9	11	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21	*						
<i>Sample input</i>	<i>Sample output</i>															
2	1, 3															
5	1, 3, 5, 7, 9															
11	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21															
3.	<p>Write a program (WAP) that will print following series upto Nth terms.</p> <p style="text-align: center;">1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1,</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><i>Sample input</i></th><th style="text-align: center;"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td><td style="text-align: center;">1</td></tr> <tr> <td style="text-align: center;">2</td><td style="text-align: center;">1, 0</td></tr> <tr> <td style="text-align: center;">3</td><td style="text-align: center;">1, 0, 1</td></tr> <tr> <td style="text-align: center;">4</td><td style="text-align: center;">1, 0, 1, 0</td></tr> <tr> <td style="text-align: center;">7</td><td style="text-align: center;">1, 0, 1, 0, 1, 0, 1</td></tr> <tr> <td style="text-align: center;">13</td><td style="text-align: center;">1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	1	1	2	1, 0	3	1, 0, 1	4	1, 0, 1, 0	7	1, 0, 1, 0, 1, 0, 1	13	1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1	**
<i>Sample input</i>	<i>Sample output</i>															
1	1															
2	1, 0															
3	1, 0, 1															
4	1, 0, 1, 0															
7	1, 0, 1, 0, 1, 0, 1															
13	1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1															
4.	<p>Write a program (WAP) that will take N numbers as inputs and compute their average. (Restriction: Without using any array)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><i>Sample input</i></th><th style="text-align: center;"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td style="text-align: center;">3 10 20 30.5</td><td style="text-align: center;">AVG of 3 inputs: 20.166667</td></tr> <tr> <td style="text-align: center;">2 22.4 11.1</td><td style="text-align: center;">AVG of 2 inputs: 16.750000</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	3 10 20 30.5	AVG of 3 inputs: 20.166667	2 22.4 11.1	AVG of 2 inputs: 16.750000	*								
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3 10 20 30.5	AVG of 3 inputs: 20.166667															
2 22.4 11.1	AVG of 2 inputs: 16.750000															

5.	<p>Write a program (WAP) that will take two numbers X and Y as inputs. Then it will print the square of X and increment (if X<Y) or decrement (if X>Y) X by 1, until X reaches Y. If and when X is equal to Y, the program prints “Reached!”</p> <table border="1"> <thead> <tr> <th><i>Sample input(X,Y)</i></th><th><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td>10 5</td><td>100, 81, 64, 49, 36, Reached!</td></tr> <tr> <td>5 10</td><td>25, 36, 49, 64, 81, Reached!</td></tr> <tr> <td>10 10</td><td>Reached!</td></tr> </tbody> </table>	<i>Sample input(X,Y)</i>	<i>Sample output</i>	10 5	100, 81, 64, 49, 36, Reached!	5 10	25, 36, 49, 64, 81, Reached!	10 10	Reached!	*
<i>Sample input(X,Y)</i>	<i>Sample output</i>									
10 5	100, 81, 64, 49, 36, Reached!									
5 10	25, 36, 49, 64, 81, Reached!									
10 10	Reached!									
6.	<p>Write a program (WAP) for the described scenario: Player-1 picks a number X and Player-2 has to guess that number within N tries. For each wrong guess by Player-2, the program prints “Wrong, N-1 Choice(s) Left!” If Player-2 at any time successfully guesses the number, the program prints “Right, Player-2 wins!” and <u>terminates right away</u>. Otherwise after the completion of N wrong tries, the program prints “Player-1 wins!” and halts. (Hint: Use break/continue)</p> <table border="1" data-bbox="192 952 1351 1423"> <thead> <tr> <th data-bbox="192 952 496 1036"><i>Sample input (X,N,n1, n2,...,nN)</i></th> <th data-bbox="496 952 1351 1036"><i>Sample output</i></th> </tr> </thead> <tbody> <tr> <td data-bbox="192 1036 496 1142">5 3 12 8 5</td><td data-bbox="496 1036 1351 1142">Wrong, 2 Choice(s) Left! Wrong, 1 Choice(s) Left! Right, Player-2 wins!</td></tr> <tr> <td data-bbox="192 1142 496 1269">100 5 50 100</td><td data-bbox="496 1142 1351 1269">Wrong, 4 Choice(s) Left! Right, Player-2 wins!</td></tr> <tr> <td data-bbox="192 1269 496 1423">20 3 12 8 5</td><td data-bbox="496 1269 1351 1423">Wrong, 2 Choice(s) Left! Wrong, 1 Choice(s) Left! Wrong, 0 Choice(s) Left! Player-1 wins!</td></tr> </tbody> </table>	<i>Sample input (X,N,n1, n2,...,nN)</i>	<i>Sample output</i>	5 3 12 8 5	Wrong, 2 Choice(s) Left! Wrong, 1 Choice(s) Left! Right, Player-2 wins!	100 5 50 100	Wrong, 4 Choice(s) Left! Right, Player-2 wins!	20 3 12 8 5	Wrong, 2 Choice(s) Left! Wrong, 1 Choice(s) Left! Wrong, 0 Choice(s) Left! Player-1 wins!	**
<i>Sample input (X,N,n1, n2,...,nN)</i>	<i>Sample output</i>									
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20 3 12 8 5	Wrong, 2 Choice(s) Left! Wrong, 1 Choice(s) Left! Wrong, 0 Choice(s) Left! Player-1 wins!									
7.	<p>Write a program (WAP) that will run and show keyboard inputs until the user types an ‘A’ at the keyboard.</p> <table border="1" data-bbox="192 1628 1351 1824"> <thead> <tr> <th data-bbox="192 1628 768 1670"><i>Sample input</i></th><th data-bbox="768 1628 1351 1670"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 1670 768 1824">X 1 a A</td><td data-bbox="768 1670 1351 1824">Input 1: X Input 2: 1 Input 3: a</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	X 1 a A	Input 1: X Input 2: 1 Input 3: a	*				
<i>Sample input</i>	<i>Sample output</i>									
X 1 a A	Input 1: X Input 2: 1 Input 3: a									

8.	<p>Write a program (WAP) that will reverse the digits of an input integer.</p> <table border="1" data-bbox="192 240 1351 367"> <thead> <tr> <th data-bbox="192 240 768 283"><i>Sample input</i></th><th data-bbox="768 240 1351 283"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 283 768 325">13579</td><td data-bbox="768 283 1351 325">97531</td></tr> <tr> <td data-bbox="192 325 768 367">4321</td><td data-bbox="768 325 1351 367">1234</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	13579	97531	4321	1234	**																																																
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4321	1234																																																							
9.	<p>Write a program (WAP) that will find the grade of N students. For each student, it will take the marks of his/her the attendance (on 5 marks), assignment (on 10 marks), class test (on 15 marks), midterm (on 50 marks), term final (on 100 marks). Then based on the tables shown below, the program will output his grade.</p> <table border="1" data-bbox="518 713 1029 931"> <tbody> <tr> <td data-bbox="518 713 975 756">Attendance (A)</td><td data-bbox="975 713 1029 756">5%</td></tr> <tr> <td data-bbox="518 756 975 798">Assignments (HW)</td><td data-bbox="975 756 1029 798">10%</td></tr> <tr> <td data-bbox="518 798 975 840">Class Tests (CT)</td><td data-bbox="975 798 1029 840">15%</td></tr> <tr> <td data-bbox="518 840 975 882">Midterm (MT)</td><td data-bbox="975 840 1029 882">30%</td></tr> <tr> <td data-bbox="518 882 975 925">Final (TF)</td><td data-bbox="975 882 1029 925">40%</td></tr> </tbody> </table> <table border="1" data-bbox="241 973 1307 1212"> <thead> <tr> <th data-bbox="241 973 376 1015">Marks</th><th data-bbox="376 973 551 1015">Letter Grade</th><th data-bbox="551 973 709 1015">Marks</th><th data-bbox="709 973 884 1015">Letter Grade</th><th data-bbox="884 973 1042 1015">Marks</th><th data-bbox="1042 973 1307 1015">Letter Grade</th></tr> </thead> <tbody> <tr> <td data-bbox="241 1015 376 1058">90-100</td><td data-bbox="376 1015 551 1058">A</td><td data-bbox="551 1015 709 1058">70-73</td><td data-bbox="709 1015 884 1058">C+</td><td data-bbox="884 1015 1042 1058">Less than 55</td><td data-bbox="1042 1015 1307 1058">F</td></tr> <tr> <td data-bbox="241 1058 376 1100">86-89</td><td data-bbox="376 1058 551 1100">A-</td><td data-bbox="551 1058 709 1100">66-69</td><td data-bbox="709 1058 884 1100">C</td><td data-bbox="884 1058 1042 1100"></td><td data-bbox="1042 1058 1307 1100"></td></tr> <tr> <td data-bbox="241 1100 376 1142">82-85</td><td data-bbox="376 1100 551 1142">B+</td><td data-bbox="551 1100 709 1142">62-65</td><td data-bbox="709 1100 884 1142">C-</td><td data-bbox="884 1100 1042 1142"></td><td data-bbox="1042 1100 1307 1142"></td></tr> <tr> <td data-bbox="241 1142 376 1184">78-81</td><td data-bbox="376 1142 551 1184">B</td><td data-bbox="551 1142 709 1184">58-61</td><td data-bbox="709 1142 884 1184">D+</td><td data-bbox="884 1142 1042 1184"></td><td data-bbox="1042 1142 1307 1184"></td></tr> <tr> <td data-bbox="241 1184 376 1227">74-77</td><td data-bbox="376 1184 551 1227">B-</td><td data-bbox="551 1184 709 1227">55-57</td><td data-bbox="709 1184 884 1227">D</td><td data-bbox="884 1184 1042 1227"></td><td data-bbox="1042 1184 1307 1227"></td></tr> </tbody> </table> <table border="1" data-bbox="192 1290 1351 1453"> <thead> <tr> <th data-bbox="192 1290 768 1332"><i>Sample input (A,HW,CT,MT,TF)</i></th><th data-bbox="768 1290 1351 1332"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 1332 768 1374">2</td><td data-bbox="768 1332 1351 1374">Student 1 : A</td></tr> <tr> <td data-bbox="192 1374 768 1417">5 10 15 44.5 92.5</td><td data-bbox="768 1374 1351 1417">Student 2 : F</td></tr> <tr> <td data-bbox="192 1417 768 1453">0 7.5 5 20 55.5</td><td data-bbox="768 1417 1351 1453"></td></tr> </tbody> </table>	Attendance (A)	5%	Assignments (HW)	10%	Class Tests (CT)	15%	Midterm (MT)	30%	Final (TF)	40%	Marks	Letter Grade	Marks	Letter Grade	Marks	Letter Grade	90-100	A	70-73	C+	Less than 55	F	86-89	A-	66-69	C			82-85	B+	62-65	C-			78-81	B	58-61	D+			74-77	B-	55-57	D			<i>Sample input (A,HW,CT,MT,TF)</i>	<i>Sample output</i>	2	Student 1 : A	5 10 15 44.5 92.5	Student 2 : F	0 7.5 5 20 55.5		*
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10.	<p>Write a program (WAP) that will give the sum of first N^{th} terms for the following series.</p> <p>1, -2, 3, -4, 5, -6, 7, -8, 9, -10, 11, -12, 13, -14,</p> <table border="1" data-bbox="192 1685 1351 1839"> <thead> <tr> <th data-bbox="192 1685 768 1727"><i>Sample input</i></th><th data-bbox="768 1685 1351 1727"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 1727 768 1769">2</td><td data-bbox="768 1727 1351 1769">Result: -1</td></tr> <tr> <td data-bbox="192 1769 768 1812">3</td><td data-bbox="768 1769 1351 1812">Result: 2</td></tr> <tr> <td data-bbox="192 1812 768 1839">4</td><td data-bbox="768 1812 1351 1839">Result: -2</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	2	Result: -1	3	Result: 2	4	Result: -2	**																																														
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11.	<p>Write a program (WAP) that will calculate the result for the first N^{th} terms of the following series. [In that series sum, dot sign (.) means multiplication]</p> $1^2.2 + 2^2.3 + 3^2.4 + 4^2.5 + \dots$ <table border="1" data-bbox="192 304 1351 508"> <thead> <tr> <th data-bbox="192 304 763 346"><i>Sample input</i></th><th data-bbox="763 304 1351 346"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 346 763 388">2</td><td data-bbox="763 346 1351 388">Result: 14</td></tr> <tr> <td data-bbox="192 388 763 430">3</td><td data-bbox="763 388 1351 430">Result: 50</td></tr> <tr> <td data-bbox="192 430 763 473">4</td><td data-bbox="763 430 1351 473">Result: 130</td></tr> <tr> <td data-bbox="192 473 763 508">7</td><td data-bbox="763 473 1351 508">Result: 924</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	2	Result: 14	3	Result: 50	4	Result: 130	7	Result: 924	**
<i>Sample input</i>	<i>Sample output</i>											
2	Result: 14											
3	Result: 50											
4	Result: 130											
7	Result: 924											
12.	<p>Write a program (WAP) that will print Fibonacci series upto N^{th} terms.</p> $1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, \dots$ <table border="1" data-bbox="192 726 1351 925"> <thead> <tr> <th data-bbox="192 726 502 768"><i>Sample input</i></th><th data-bbox="502 726 1351 768"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 768 502 811">1</td><td data-bbox="502 768 1351 811">1</td></tr> <tr> <td data-bbox="192 811 502 853">2</td><td data-bbox="502 811 1351 853">1, 1</td></tr> <tr> <td data-bbox="192 853 502 895">4</td><td data-bbox="502 853 1351 895">1, 1, 2, 3</td></tr> <tr> <td data-bbox="192 895 502 925">7</td><td data-bbox="502 895 1351 925">1, 1, 2, 3, 5, 8, 13</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	1	1	2	1, 1	4	1, 1, 2, 3	7	1, 1, 2, 3, 5, 8, 13	**
<i>Sample input</i>	<i>Sample output</i>											
1	1											
2	1, 1											
4	1, 1, 2, 3											
7	1, 1, 2, 3, 5, 8, 13											
13.	<p>Write a program (WAP) that will print the factorial ($N!$) of a given number N. Please see the sample input output.</p> <table border="1" data-bbox="192 1170 1351 1368"> <thead> <tr> <th data-bbox="192 1170 763 1212"><i>Sample input</i></th><th data-bbox="763 1170 1351 1212"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 1212 763 1254">1</td><td data-bbox="763 1212 1351 1254">1! = 1 = 1</td></tr> <tr> <td data-bbox="192 1254 763 1296">2</td><td data-bbox="763 1254 1351 1296">2! = 2 X 1 = 2</td></tr> <tr> <td data-bbox="192 1296 763 1339">3</td><td data-bbox="763 1296 1351 1339">3! = 3 X 2 X 1 = 6</td></tr> <tr> <td data-bbox="192 1339 763 1368">4</td><td data-bbox="763 1339 1351 1368">4! = 4 X 3 X 2 X 1 = 24</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	1	1! = 1 = 1	2	2! = 2 X 1 = 2	3	3! = 3 X 2 X 1 = 6	4	4! = 4 X 3 X 2 X 1 = 24	**
<i>Sample input</i>	<i>Sample output</i>											
1	1! = 1 = 1											
2	2! = 2 X 1 = 2											
3	3! = 3 X 2 X 1 = 6											
4	4! = 4 X 3 X 2 X 1 = 24											
14.	<p>Write a program (WAP) that will find nC_r where $n \geq r$; n and r are integers.</p> <table border="1" data-bbox="192 1529 1351 1727"> <thead> <tr> <th data-bbox="192 1529 502 1571"><i>Sample input</i></th><th data-bbox="502 1529 1351 1571"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 1571 502 1613">5 2</td><td data-bbox="502 1571 1351 1613">10</td></tr> <tr> <td data-bbox="192 1613 502 1655">10 3</td><td data-bbox="502 1613 1351 1655">120</td></tr> <tr> <td data-bbox="192 1655 502 1698">7 7</td><td data-bbox="502 1655 1351 1698">1</td></tr> <tr> <td data-bbox="192 1698 502 1727">6 1</td><td data-bbox="502 1698 1351 1727">6</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	5 2	10	10 3	120	7 7	1	6 1	6	**
<i>Sample input</i>	<i>Sample output</i>											
5 2	10											
10 3	120											
7 7	1											
6 1	6											

15.	<p>Write a program (WAP) that will find x^y (x to the power y) where x, y are positive integers.</p> <table border="1" data-bbox="192 206 1351 418"> <thead> <tr> <th data-bbox="192 206 491 249"><i>Sample input(x,y)</i></th><th data-bbox="491 206 1351 249"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 249 491 291">5 2</td><td data-bbox="491 249 1351 291">25</td></tr> <tr> <td data-bbox="192 291 491 333">2 0</td><td data-bbox="491 291 1351 333">1</td></tr> <tr> <td data-bbox="192 333 491 375">6 1</td><td data-bbox="491 333 1351 375">6</td></tr> <tr> <td data-bbox="192 375 491 418">0 5</td><td data-bbox="491 375 1351 418">0</td></tr> </tbody> </table>	<i>Sample input(x,y)</i>	<i>Sample output</i>	5 2	25	2 0	1	6 1	6	0 5	0	*		
<i>Sample input(x,y)</i>	<i>Sample output</i>													
5 2	25													
2 0	1													
6 1	6													
0 5	0													
16.	<p>WAP that will find the GCD (greatest common divisor) and LCM (least common multiple) of two positive integers.</p> <table border="1" data-bbox="192 608 1351 889"> <thead> <tr> <th data-bbox="192 608 491 650"><i>Sample input</i></th><th data-bbox="491 608 1351 650"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 650 491 734">5 7</td><td data-bbox="491 650 1351 734">GCD: 1 LCM: 35</td></tr> <tr> <td data-bbox="192 734 491 819">12 12</td><td data-bbox="491 734 1351 819">GCD: 12 LCM: 12</td></tr> <tr> <td data-bbox="192 819 491 889">12 32</td><td data-bbox="491 819 1351 889">GCD: 4 LCM: 96</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	5 7	GCD: 1 LCM: 35	12 12	GCD: 12 LCM: 12	12 32	GCD: 4 LCM: 96	**				
<i>Sample input</i>	<i>Sample output</i>													
5 7	GCD: 1 LCM: 35													
12 12	GCD: 12 LCM: 12													
12 32	GCD: 4 LCM: 96													
17.	<p>WAP that will determine whether a number is prime or not.</p> <table border="1" data-bbox="192 1094 1351 1332"> <thead> <tr> <th data-bbox="192 1094 491 1136"><i>Sample input</i></th><th data-bbox="491 1094 1351 1136"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 1136 491 1178">1</td><td data-bbox="491 1136 1351 1178">Not prime</td></tr> <tr> <td data-bbox="192 1178 491 1220">2</td><td data-bbox="491 1178 1351 1220">Prime</td></tr> <tr> <td data-bbox="192 1220 491 1262">11</td><td data-bbox="491 1220 1351 1262">Prime</td></tr> <tr> <td data-bbox="192 1262 491 1305">39</td><td data-bbox="491 1262 1351 1305">Not prime</td></tr> <tr> <td data-bbox="192 1305 491 1332">101</td><td data-bbox="491 1305 1351 1332">Prime</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	1	Not prime	2	Prime	11	Prime	39	Not prime	101	Prime	**
<i>Sample input</i>	<i>Sample output</i>													
1	Not prime													
2	Prime													
11	Prime													
39	Not prime													
101	Prime													
18.	<p>WAP that will determine whether an integer is palindrome number or not.</p> <table border="1" data-bbox="192 1531 1351 1769"> <thead> <tr> <th data-bbox="192 1531 491 1573"><i>Sample input</i></th><th data-bbox="491 1531 1351 1573"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 1573 491 1615">9</td><td data-bbox="491 1573 1351 1615">Yes</td></tr> <tr> <td data-bbox="192 1615 491 1657">91</td><td data-bbox="491 1615 1351 1657">No</td></tr> <tr> <td data-bbox="192 1657 491 1700">222</td><td data-bbox="491 1657 1351 1700">Yes</td></tr> <tr> <td data-bbox="192 1700 491 1742">12321</td><td data-bbox="491 1700 1351 1742">Yes</td></tr> <tr> <td data-bbox="192 1742 491 1784">110</td><td data-bbox="491 1742 1351 1784">No</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	9	Yes	91	No	222	Yes	12321	Yes	110	No	**
<i>Sample input</i>	<i>Sample output</i>													
9	Yes													
91	No													
222	Yes													
12321	Yes													
110	No													

19.	<p>WAP that will calculate following mathematical function for the input of x. Use only the series to solve the problem.</p> $\text{Sin}x = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots \dots \dots \infty$ <table border="1" data-bbox="192 375 1351 530"> <thead> <tr> <th data-bbox="192 375 491 424"><i>Sample input</i></th><th data-bbox="491 375 1351 424"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 424 491 466">1</td><td data-bbox="491 424 1351 466">0.841</td></tr> <tr> <td data-bbox="192 466 491 508">2</td><td data-bbox="491 466 1351 508">0.909</td></tr> <tr> <td data-bbox="192 508 491 530">3</td><td data-bbox="491 508 1351 530">0.141</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	1	0.841	2	0.909	3	0.141	***		
<i>Sample input</i>	<i>Sample output</i>											
1	0.841											
2	0.909											
3	0.141											
20.	<p>Write a program that takes an integer number n as input and find out the sum of the following series up to n terms.</p> $1 + 12 + 123 + 1234 + \dots\dots$ <table border="1" data-bbox="192 768 1351 973"> <thead> <tr> <th data-bbox="192 768 491 817"><i>Sample input</i></th><th data-bbox="491 768 1351 817"><i>Sample output</i></th></tr> </thead> <tbody> <tr> <td data-bbox="192 817 491 859">1</td><td data-bbox="491 817 1351 859">1</td></tr> <tr> <td data-bbox="192 859 491 901">2</td><td data-bbox="491 859 1351 901">13</td></tr> <tr> <td data-bbox="192 901 491 944">3</td><td data-bbox="491 901 1351 944">136</td></tr> <tr> <td data-bbox="192 944 491 986">4</td><td data-bbox="491 944 1351 986">1370</td></tr> </tbody> </table>	<i>Sample input</i>	<i>Sample output</i>	1	1	2	13	3	136	4	1370	**
<i>Sample input</i>	<i>Sample output</i>											
1	1											
2	13											
3	136											
4	1370											