**Loop related problems**

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| **SL** | **Problem statement** | **Difficulty levels** |
|  | Write a program (WAP) that will print following series upto Nth terms.  1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | 1, 2 | | 5 | 1, 2, 3, 4, 5 | | 11 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 | | **\*** |
|  | Write a program (WAP) that will print following series upto Nth terms.  1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31 …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | 1, 3 | | 5 | 1, 3, 5, 7, 9 | | 11 | 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 | | **\*** |
|  | Write a program (WAP) that will print following series upto Nth terms.  2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | 2, 4 | | 5 | 2, 4, 6, 8, 10 | | 11 | 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 | | **\*** |
|  | Write a program (WAP) that will print following series upto Nth terms.  3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42 …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | 3, 6 | | 5 | 3, 6, 9, 12, 15 | | 11 | 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33 | | **\*** |

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|  | Write a program (WAP) that will print following series upto Nth terms.  1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 3 | 1, 4, 9 | | 5 | 1, 4, 9, 16, 25 | | 10 | 1, 4, 9, 16, 25, 36, 49, 64, 81, 100 | | **\*** |
|  | Write a program (WAP) that will print following series upto Nth terms.  1, -2, 3, -4, 5, -6, 7, -8, 9, -10, 11, -12, 13, -14, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 3 | 1, -2, 3 | | 7 | 1, -2, 3, -4, 5, -6, 7 | | 10 | 1, -2, 3, -4, 5, -6, 7, -8, 9, -10 | | **\*\*** |
|  | Write a program (WAP) that will print following series upto Nth terms.  1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, 0, 1, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 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 | | **\*\*** |
|  | Write a program (WAP) that will print following series upto Nth terms.  2, 6, 12, 20, 30, 42, 56, 72, 90, 110, 132, 156, 182, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 1 | 2 | | 2 | 2, 6 | | 3 | 2, 6, 12 | | 4 | 2, 6, 12, 20 | | 7 | 2, 6, 12, 20, 30, 42, 56 | | 10 | 2, 6, 12, 20, 30, 42, 56, 72, 90, 110 | | **\*\*** |

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|  | Write a program (WAP) that will print following series upto Nth terms.  2, -4, 6, -8, 10, -12, 14, -16, 18, -20, 22, -24, 26, -28, 30, -32, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 4 | 2, -4, 6, -8 | | 7 | 2, -4, 6, -8, 10, -12, 14 | | 10 | 2, -4, 6, -8, 10, -12, 14, -16, 18, -20 | | **\*\*** |
|  | Write a program (WAP) that will give the sum of first Nth terms for the following series.  1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 4 | Result: 10 | | 7 | Result: 28 | | 10 | Result: 55 | | **\*** |
|  | Write a program (WAP) that will give the sum of first Nth terms for the following series.  1, -2, 3, -4, 5, -6, 7, -8, 9, -10, 11, -12, 13, -14, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | Result: -1 | | 3 | Result: 2 | | 4 | Result: -2 | | 7 | Result: 4 | | 10 | Result: -5 | | **\*\*** |
|  | Write a program (WAP) that will give the sum of first Nth terms for the following series.  1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | Result: 5 | | 3 | Result: 14 | | 4 | Result: 30 | | 7 | Result: 140 | | 10 | Result: 385 | | **\*** |

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|  | Write a program (WAP) that will calculate the result for the first Nth terms of the following series. [In that series sum, dot sign (.) means multiplication]  12.2 + 22.3 + 32.4 + 42.5 + …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | Result: 14 | | 3 | Result: 50 | | 4 | Result: 130 | | 7 | Result: 924 | | | **\*\*** | |
|  | Write a program (WAP) that will calculate the result for the first Nth terms of the following series. [In that series, dot sign (.) means multiplication]  1.2 + 2.3 + 3.5 + 4.8 + 5.12 + 6.17 +……..   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 2 | Result: 8 | | 3 | Result: 23 | | 4 | Result: 55 | | 7 | Result: 378 | | | **\*\*** | |
|  | Write a program (WAP) that will print Fibonacci series upto Nth terms.  1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, …….   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 1 | 1 | | 2 | 1, 1 | | 4 | 1, 1, 2, 3 | | 7 | 1, 1, 2, 3, 5, 8, 13 | | 10 | 1, 1, 2, 3, 5, 8, 13, 21, 34, 55 | | | **\*\*** | |
|  | Write a program (WAP) that will find factorial of an integer N.   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 1 | 1 | | 3 | 6 | | 5 | 120 | | 6 | 720 | | 7 | 5040 | | | **\*** | |
|  | Write a program (WAP) that will find xy (x to the power y) where x, y are positive integers.   |  |  | | --- | --- | | ***Sample input(x,y)*** | ***Sample output*** | | 5 2 | 25 | | 10 3 | 1000 | | 2 0 | 1 | | 6 1 | 6 | | 0 5 | 0 | | | **\*** | |
|  | | WAP that will determine whether a number is prime or not.   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 1 | Not prime | | 2 | Prime | | 11 | Prime | | 39 | Not prime | | 101 | Prime | | | **\*\*** | |
|  | | WAP that will show the multiplicative table (upto 5) for an integer N.   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 3 | 3 x 1 = 3  3 x 2 = 6  3 x 3 = 9  3 x 4 = 12  3 x 5 = 15 | | 17 | 17 x 1 = 17  17 x 2 = 34  17 x 3 = 51  17 x 4 = 68  17 x 5 = 85 | | | **\*** | |
|  | | WAP that will count number of digits, as well as, sum up each digit for a given integer N.   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 12 | Count: 2, Sum: 3 | | 2673 | Count: 4, Sum: 18 | | 3 | Count: 1, Sum: 3 | | | **\*\*** | |
|  | | WAP that multiplies two integer numbers and prints the result. The program runs repeatedly as per the user’s desire after showing the result, the program will ask the user to type ‘Y’ for another run or ‘N’ to stop execution. The user will also input the two integer numbers to multiply. | | **\*** | |
|  | | Write a program (WAP) that will print following series upto Nth terms.  1, 2, 6, 24, 120, 720, 5040, 40320, ………   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 3 | 1, 2, 6 | | 5 | 1, 2, 6, 24, 120, 720 | | 7 | 1, 2, 6, 24, 120, 720, 5040, 40320 | | | **\*\*** | |
|  | | WAP that will print (as an integer) the reverse of a given integer number N.   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 237 | 732 | | 100 | 1 | | 7 | 7 | | 1001 | 1001 | | | **\*\*** | |
|  | | WAP to find the numbers divisible by 7 within a range. Give the range as an input.   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 7 25 | 7, 14, 21 | | 10 13 |  | | 1 100 | 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98 | | 6 13 | 7 | | | **\*** | |
|  | WAP to find all the prime numbers within a range. Give the range as an input.   |  |  | | --- | --- | | ***Sample input*** | ***Sample output*** | | 1 20 | 2, 3, 5, 7, 11, 13, 17, 19 | | 23 29 | 23, 29 | | 1 100 | 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97 | | | **\*\*** | |