

Loop Based:

- 1) Using while, print Hello N times
- 2) Using while, find sum of series:

S= 1+2+3... N times	S= 11+12+13+... upto N
S=5+7+9+... N times	S=5+7+9+... upto N
S= 1+5+10+15 ... N times	S= 1+5+10+15 ... upto N
S=2+4+8+... N times	S=2+4+8+...upto N
S=1 -3 +5 -7 ... N times	S=1 -3 + 5 -7 ...upto N

- 3) Using for, implement above programs

- 4) Find Sum of n odd nos.
- 5) Sum of even numbers up to n (n being even).
- 6) Find factorial of a number. Number can be +ive/zero/-ive.
- 7) Using do-while, keep on reading numbers and find their sum till number entered is not -1.
- 8) Using do-while, implement above series sum
- 9) Find ASCII code of a symbol (say \$), of alphabet A, of alphabet a, of digit 0 etc.
- 10) Print following patterns, assuming each pattern is of N lines

<pre> * ** *** **** ...N lines </pre>	<pre> * ** *** **** N lines </pre>	<pre> * *** ***** ...N lines Also print above pattern in reverse order </pre>	<pre> A ABC ABCDE ...N Lines (assume N <=13) </pre>	<pre> 1 121 12321 (after reaching to 9, next number will be 0) 123456789010987654321 12345678901210987654321 ... N lines </pre>
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- 11) **Find whether a given number is prime or not.
- 12) Using if-else, implement calculator operations for supporting choices for four arithmetic operations +, -, *, / Program should continue repeating the calculations of the operations till Stop choice is not given.
- 13) Using loop, find sum of digits of a given number. Number will be read as integer.
- 14) **Using loops, find sum of digits of a given number, which is of float type. (Hint: integer part of the float number can be separated by assigning it to an int; fractional part can also be separated; find sum of digits of both parts separately)
- 15) Find sum of series $S = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} \dots$ upto $x^n/n!$. Do this program (i) by calculating numerator and denominator of each term separately for each iteration (ii) **implement efficiently, so that each numerator and denominator can be computed using previous numerator & denominator respectively.
- 16) **Find whether a given integer number is palindrome or not e.g. 12321 is a palindrome, 1221 is a palindrome, but 12331 is not.