

Sum of Sequence using control structures

1. Write programs to find the sum of the following series:

- i. $1 + 1/3 + 1/5 + \dots + 1/99$
- ii. $1 + 1/2 + 1/4 + \dots + 1/100$
- iii. $1 + 1/4 + 1/8 + \dots + 1/100$
- iv. $1/2 + 2/3 + 3/4 + \dots + 99/100$
- v. $1/1! + 2/2! + 3/3! + \dots + n$
- vi. $1/3! + 5/4! + 9/5! + \dots + n$
- vii. $1^2 + 2^2 + 3^2 + \dots + n^2$
- viii. $1/x + 1/x^2 + 1/x^3 + \dots + n$
- ix. $1 + 3 + 5 + 7 + \dots + n$
- x. $2 + 4 + 6 + 8 + 10 + \dots + n$
- xi. $x + x^1 + x^2 + x^3 + \dots + x^N$

For Q#1 - Programs i-iv should be done in one Java program
and Programs v-xi should be done in another Java program

2. Write a program for following series. Number of steps inputs ask form user.
 $SUM = 12 - 32 + 52 - 72 + \dots$

3. Write a program to generate following series:-
A C E G I..... character