

SERIES QUESTIONS

Q1. $1+2+3+4+5+\dots$ N terms

Q2. $1+3+5+7+9+\dots$ N terms

Q3. $2+4+6+8+10+\dots$ N terms

Q4. $1-2+3-4+5+\dots$ N terms

Q5. $2-4+6-8+\dots$ N terms

Q6. $1!+2!+3!+4!+5!+\dots$ N terms

Q7. $1!+3!+5!+7!+\dots$ N terms

Q8. $2!+4!+6!+8!+\dots$ N terms

Q9. $x+x^2+x^3+x^4+\dots$ x^n (N terms)

Q10. $x+x^3+x^5+x^7+\dots$ $x^{(n+2)}$ (N terms)

Q11. $x/1!+x^2/2!+x^3/3!+\dots$ $x^n/n!$ (N terms)

Q12. $x/1!+x/3!+x/5!+\dots$ $x/n!$ (N terms)

Q13. $1+1+2+3+5+8+\dots$ N terms

Q14. $(1)+(1+2)+(1+2+3)+\dots$ $(1+2+3+\dots+n)$ (N terms)

Q15. $1/2+2/3+3/4+4/5+\dots$ N terms

Q16. $1/8+4/12+7/16+\dots$ N terms

Q17. $x+x^2/2+x^3/3+\dots$ N terms

Q18. $12+32+52+72+\dots$ N terms

Q19. $2^2+4^2+6^2+\dots$ N terms

Q20. 1 3 7 15 31 63 127N terms

(every term $2^n - 1$)

Q21. Write a program to find the sum of the first ten odd Numbers

Q22. Write a program to display all prime numbers between 10 to 100.

Q23. Write a program to input a number and then display all prime no.s up to the number entered.

Q24. Display the following patterns:

PATTERN - 1

```
  2
 2 2
2 2 2
2 2 2 2
2 2 2 2 2
```

PATTERN - 2

```
1
12
123
1234
12345
1234
123
12
1
```

PATTERN - 3

```
  1
 2 2
3 3 3
4 4 4 4
5 5 5 5 5
4 4 4 4
3 3 3
2 2
1
```

Q 25. Write a program to find the sum of the series:

$$1 + x + x^2 + x^3 + x^4 + \dots x^n$$

Where x and n are entered by the user.