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## 3. Calculation of sin(x) as a Series

The sine function can be expressed as:

$$\sin(x) = x - rac{x^3}{3!} + rac{x^5}{5!} - rac{x^7}{7!} + \dots$$

## **Algorithm**

- 1. Start.
- 2. Read x (in radians) and n (number of terms).
- 3. Initialize  $sin_x = 0$  and sign = 1.
- For i = 1 to n, do:
  - Compute term = sign \* x^i / i!
  - Add term to sin\_x
  - Flip sign (-1 × sign)
- 5. Print sin\_x
- 6. Stop.

Ask anything







ChatGPT can make mistakes. Check important info.