

Rechnen mit Fließkommazahlen



Was ist die Ausgabe dieses Programms (standardmässig auf 6 Stellen gerundet)?

```
#include<iostream>

int main()
{
    double result = 0;

    for (double d = 1; d >= 1.0e-4; d /= 2)
        result += d;

    std::cout << result << "\n";
    return 0;
}
```

- 1
- 1.99988
- 1.99998
- 1.99999
- 2
- 2.00001
- 2.71828

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■ $1.0e-4 = \frac{1}{10,000}$

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■ result:

$$1 + \frac{1}{2} + \frac{1}{4} + \dots + \frac{1}{8192}$$

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$$1 + \frac{1}{2} + \frac{1}{4} + \dots + \frac{1}{8192}$$
$$= 2 - \frac{1}{8192}$$

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$$= 2 - \frac{1}{8192} \approx 2 - \frac{12}{100,000}$$

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