

BSK – Write-up

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Zadanie: <https://www.wechall.net/et/challenge/hi/index.php>

Treść zadania:

Hi, imagine this situation.

There is an IRC channel #wechall on irc.wechall.net.

The server sends the messages to all people in the channel, also back to the sender himself.

When every minute one person joins and says hi,

how many "hi" messages were totally sent for this channel after 0xffffbadc0ded minutes ?

No one ever leaves the channel, so there are 0xffffbadc0ded people at the end ;)

Further explanation for 3 minutes:

the channel is empty and there have been sent 0 messages 1st person joins, sends hi, the server sends hi back to 1 persons.

2nd person joins, sends hi, the server sends hi back to 2 persons.

3rd person joins, sends hi, the server sends hi back to 3 persons.

Minute 1: 2 messages sent

Minute 2: 3 messages sent

Minute 3: 4 messages sent

Adding these up means for 3 minutes are 9 messages sent.

Conversion Notes: 0xffffbadc0ded is hexadecimal which converts to 17.591.026.060.781 (Thats around 20 trillion minutes). Please submit your solution in the decimal system.

Zauważyłem, że z każdą minutą liczba wiadomości zwiększa się dokładnie co minutę o 1, więc jest to ciąg arytmetyczny. Pierwszym wyrazem tego ciągu jest 2 (pierwsza osoba wysłała „hi”, system odpowiada więc są to 2 wiadomości), a różnica będzie wynosić 1 (minuta). Dzięki temu można zastosować wzór na sumę wszystkich wyrazów ciągu arytmetycznego:

$$s_n = \frac{(a_1 + a_n) \cdot n}{2}$$

$a_1 = 2$

Jeśli wszystkich wyrazów jest 17591026060781, a pierwszym wyrazem jest 2 to $a_n = 17591026060782$.

$n = 17591026060781$

```
main.py x
1 x = (2 + 17591026060782) * 17591026060781 // 2
2 print(x)
```

```
C:\Users\Michu\PycharmProjects\BSK\venv\Scripts\python.exe
154722098935564539692256152

Process finished with exit code 0
```

Szybkie obliczenie w pythonie. Operator `//` bo przy zwykłym dzieleniu printuje liczbę zaokrągloną w notacji wykładniczej: `1.5472209893556454e+26`.

Wynik: 154722098935564539692256152 po wklejeniu do zadania działa.

hi (Math)

WeChall

Your answer is correct. Congratulations you have solved this challenge.
✔ Please [vote this challenge](#).
You may also access [the solution board](#) for this challenge now.

WeChall

✔ You gained 0.46% (5 points) on WeChall.

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Your solution for hi

Answer

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