VIETNAM NATIONAL UNIVERSITY - HO CHI MINH CITY

HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY

FACULTY OF COMPUTER SCIENCE AND ENGINEERING

PROGRAMMING FUNDAMENTALS - CO1027

ASSIGNMENT 0

FIRST MONGOL INVASIONS OF VIETNAM

HO CHI MINH CITY, 02/2021

ASSIGNMENT'S SPECIFICATION
Version 1.3.1

1 Assignment's outcome

After completing this assignment, students review and make good use of the branching structures learned in the Introduction to Computing subject.

2 Introduction

In 1206, Genghis Khan completed the unification of the Mongol tribes, starting to wage wars to expand his empire. In the third khagan dynasty, the Möngke Khan, he carried out campaigns to attack the Song dynasty by sending his younger brother Kublai Khan to invade Dali Kingdom. In 1253, after conquering Dali, Kublai Khan returned, keeping Uriyangkhadai, the son of Subutai to fight the countries that had not surrendered.

The Mongols asked the Tran to pave the way for them to invade Song dynasty to expand the territory to the south. They wanted to invade Dai Viet to create a "pincer" position around Southern Song dynasty. The Mongols sent diplomatic delegations to Dai Viet to ask King Tran to pave the way for the Mongol army to pass through to the Song dynasty's land. King Tran flatly rejected the proposal and arrested the Mongolian diplomats.

The capture of Dai Viet was part of the Mongol army's overall strategy to destroy the Southern Song dynasty. In 1258, a Mongol column under Uriyangkhadai, invaded Dai Viet. According to Vietnamese sources, the Mongol army consisted of at least 30,000 soldiers of which at least 2,000 were Yi troops from the Dali Kingdom.

3 Input data

The program's input data is stored in file `input.txt`. This file stores the information in the following format:

$$HP_1 \_ HP_2$$
$$ID_1 \_ ID_2$$
$$M_1 \_ M_2$$

$E_1 \textvisiblespace E_2 \textvisiblespace E_3 \textvisiblespace E_4$

In detail:

- HP_1 and HP_2 is the hit points of the Tran Dynasty cavalry and the Mongol cavalry, respectively, is an integer in [0, 1000]. In any calculation case, if the HP is over 1000, you must set it to 1000. Otherwise, if HP is less than 0, it must be set to 0.

- ID_1 and ID_2 are used respectively to determine if the cavalry has the commander-in-chief or the king:

    - $ID_i = 0$: The cavalry was not directly commanded by the king or the commander-in-chief.
    - $ID_i = 1$: The cavalry was directly commanded by the king Tran.
    - $ID_i = 2$: The cavalry was directly commanded by the commander-in-chief Uriyangkhadai.

- M_1 and M_2 is the initial money of the Tran Dynasty cavalry and the Mongol cavalry, respectively, is an integer in [0, 1000]. If the money is over 1000, you must set it to 1000. Otherwise, if the money is less than 0, it must be set to 0.

- E_1, E_2, E_3 and E_4 are the event codes of the 4 phases in the battle, respectively, is an integer in [0, 999]. Event code outside this range is considered invalid and does not require any action.

    Note that each mission will have its case, if E_i is outside the range given in the case of the mission, the mission function will return -999.

    For example, mission 1 has function getReady, where E_1 must have a value in [100, 500]. If E_1 has a value outside of this range (Ex. 12), function getReady will return -999.

Note: In any cases, if we calculate that HP and M are not integers, the number must be rounded up immediately.

4   Mission

Students are asked to build a program in C++ to simulate the battle above, through the missions described below.

4.1   Mission 1: Prepare for battle (3 points)

To prepare for the battle, the two sides cavalry was forced to purchase weapons and equipment for the war. Students were asked to write a function to describe the process of preparing for one-sided cavalry as follows:

- Function name: getReady
- Input parameters:
  - The hit points of the cavalry team **HP**.
  - The number determines the existence of the special character of this cavalry **ID**.
  - The money available **M**. If **M** is less than the item cost, the cavalry team will not be able to buy the item.
  - Event $\mathbf{E_1}$

- Return value: The integer is the sum of **HP** and **M**, with **HP** is the hit points of that cavalry after preparation and **M** is the money remaining.

4.1.1   Case 1

If $\mathbf{E_1}$ is in the $[100, 199]$, the cavalry buys weapons to strengthen their own power. The weapon shop has two items as follows:

Item	Price	Effect	Requirement
WP1	300	+ 50 HP	HP at the time of purchase ≥ 500 and M is an odd number
WP2	200	+ 25 HP	M is an even number

In order for the cavalry to both buy weapons and practice, the generals hang the item at a height calculated using the formula:

$$h = (\mathrm{E_1} - 100)\%64$$

If the cavalry wants to see weapons, they must first show off their high jumping abilities. Their high jump ability is calculated as follows:

$$J = \mathrm{HP}\%100$$

If J is greater than h then the cavalry will buy the item, and of course must also meet the requirements set out when buying that item. In the case of the cavalry team commanded by

King Tran Thai Tong, as the king of one country, the king would buy both items without having to pass the test. And since he's king, he won't need to spend money on these two items. On the contrary, if the cavalry team is commanded by Uriyangkhadai, he will be subjective without buying equipment. After purchasing the item, M will be deducted an amount exactly equal to the price shown in the table above.

Example 1: With $HP = 614$, $M = 400$, $E_1 = 112$, $ID = 0$, we have:

$$h = (E_1 - 100)\%64 = 12$$

$$J = HP\%100 = 14$$

Because J is greater than h,

$$\text{output} = HP + M = (614 + 25) + (400 - 200) = 839$$

Example 2: With $HP = 813$, $M = 400$, $E_1 = 112$, $ID = 1$, the cavalry team commanded by King Tran Thai Tong:

$$\text{output} = HP + M = 888 + 400 = 1288$$

4.1.2 Case 2

In the case of E_1 in $[200, 299]$. If the money of the cavalry team that entered the shop was odd, the shop would only agree to sell them armor that cost even numbers. Conversely, if the money of the cavalry team that entered the shop was even, the shop would only agree to sell armor that cost an odd amount. Information about the armor available in the store is shown in the table below:

Item	Price	Effect
MG1	190	+ 5 HP
MG2	195	+ 7 HP
MG3	200	+ 9 HP
MG4	205	+ 11 HP

Cavalry wants to buy MGx item (with x in $[1, 4]$). Depending on E_1, the cavalry will

choose which item to buy. x is calculated using the formula:

$$x = E_1 \% 4 + 1$$

In the case that the cavalry wants to buy an item and meets all the conditions, they will be able to buy it and deduct the money **M** corresponding to the item's price. Otherwise, they won't be able to buy it.

Since the king and the commander-in-chief are powerful people, when they command the cavalry and want to buy any item, the shop owner will immediately sell that item. At this time, the cavalry's money was still deducted as usual. If the king or commander-in-chief do not have enough money, they cannot buy the stuffs.

Example 3: With **HP** $= 400$, **M** $= 400$, **E$_1$** $= 264$, **ID** $= 0$, we have:

$$x = E_1 \mod 4 + 1 = 1$$

The cavalry wants to buy MG1, but because the cavalry entering the store has an even number of M, the shop only sells them MG2 or MG4 (the price is odd)), so the cavalry can't buy it.

$$\text{output} = HP + M = 400 + 400 = 800$$

Example 4: With **HP** $= 400$, **M** $= 401$, **E$_1$** $= 264$, **ID** $= 0$, we have:

$$x = E_1 \% 4 + 1 = 1$$

The cavalry wants to buy MG1. The cavalry when entering the store has an odd M, so the shop will sell them MG1 or MG3. Thus, the cavalry can buy MG1.

$$\text{output} = HP + M = (400 + 5) + (401 - 190) = 616$$

4.1.3 Case 3

In the case of **E$_1$** in the $[300, 399]$, the cavalry equips itself with blades and spears to fight.

Item	Price	Effect
Blade	300	+ HP a%
Spear	500	+ HP $2 \times$ a%

If the last digit of E_1 is a prime number, a will be twice that prime, otherwise a is 1.

Choosing to buy blades or spears depends on the HP of the cavalry. If $HP \geq 600$, and the last digit of HP is prime, they buy the spear. Conversely, if $HP \geq 600$, but the last digit of HP is not a prime number, they just buy the blade. Note that, when the cavalry commanded by King Tran Thai Tong, once the spear is purchased, HP will increase by 200, and will not increase by percentage as shown in the table above.

Example 5: With **HP** $= 613$, **M** $= 401$, **E₁** $= 355$, **ID** $= 0$, we have:

The last digit E_1 is 5, which is a prime number, a = 10. Since $HP \geq 600$ and the last digit of HP are prime numbers, the cavalry will buy spear, but cannot afford them.

$$\text{output} = \text{HP} + \text{M} = 613 + 401 = 1014$$

4.1.4 Case 4

In the case of **E₁** in the $[400, 499]$, the cavalry during weary training should drink alcohol for relief. Alcohol does not make them comfortable, on the contrary it makes them dizzy.

However, the barracks had many high-drinking soldiers, the cavalry was only intoxicated when E_1 was divisible by 5. When intoxicated, the attack and defense power of the entire army was reduced, Cavalry's HP will be reduced by 10%.

Example 6: With **HP** $= 614$, **M** $= 401$, **E₁** $= 410$, **ID** $= 0$, we have:

$E_1 = 410$ was divisible by 5, the cavalry gets intoxicated, and HP is reduced

$$\text{output} = \text{HP} + \text{M} = 614 \times 90\% + 401 = 553 + 401 = 1552$$

4.1.5 Case 5

In the case that **E₁** equals 500, horses riot the barracks. At this time, both the M and the HP of the cavalry were reduced by a quarter compared to the original.

Example 7: With **HP** $= 417$, **M** $= 210$ **E₁** $= 500$ **ID** $= 0$, we have:

$$\text{output} = \text{HP} + \text{M} = 417 \times 3/4 + 210 \times 3/4 = 313 + 158 = 471$$

4.2   Fighting between two cavalry

The rules in this section apply to the battles from now on. After the battle, the hit points of the two cavalry will be calculated using the formula:

$$\text{HP}_i = \text{HP}_i - |\text{HP}_j - \mu|$$

μ is calculated by the formula (rounded up)

$$\mu = \frac{2 \times \text{HP}_i \times \text{HP}_j}{\text{HP}_i + \text{HP}_j}$$

Example 8: With **HP_1** = 100, **HP_2** = 200, after the battle we have:

$$\mu = \frac{2 \times 100 \times 200}{100 + 200} \simeq 134$$

$$\text{HP}_1 = \text{HP}_1 - |\text{HP}_2 - \mu| = 100 - |200 - 134| = 34$$

$$\text{HP}_2 = \text{HP}_2 - |\text{HP}_1 - \mu| = 200 - |100 - 134| = 166$$

After fighting, if one of the two cavalry has the higher hit points, it is considered that the cavalry wins or draws if they are equal. If the cavalry has a negative or zero hit points, it is considered dead and returned with a hit points 0. The hit points value passed must be changed as calculated.

In the event that our side cavalry was commanded by King Tran Thai Tong, if the enemy was also engaged in battle by the commander-in-chief Uriyangkhada, the outcome would be a draw. If either of the cavalry are directly engaged by the king or the commander-in-chief but the other side is not, then the cavalry team commanded by the king or the commander-in-chief wins. If the draw, the HP of the two cavalry teams will be unchanged, otherwise the dead cavalry will return 0, while the winning cavalry will retain their HP.

4.3   Mission 2: Battle of Binh Le Nguyen (3 points)

On December 1257, the Mongol forces invaded the Binh Le field, King Tran Thai Tong led himself with six royal palace guard forces, and the reserve army in the regions near the Imperial City to fight back. The two sides encountered on January 17, 1258. Initially the Mongol forces were more dominant. General Le Phu Tran, which means Le Tan, tried to stop the king:

"Your Majesty, you will only have one fight now! Let's just stay away from them, how can you easily believe what people say!". At that time, King Tran retreated to Phu Lo, Le Tan defended behind. Therefore, The Mongols were unsuccessful in their cabal to destroy our army and arrest King Tran.

Students are asked to write a function to demonstrate the encounter between the two sides described below:

- Function name: firstBattle
- Input parameters:
    - The hit points of the Tran's cavalry HP_1.
    - The hit points of the Mongol's cavalry HP_2.
    - The number determines the existence of the special character of the Tran ID_1.
    - The number determines the existence of the special character of the Mongols ID_2.
    - Event E_2
- Return value: An integer representing a win or loss (1 if our army wins, 0 if a tie, -1 if the enemy wins). The two hit points of the Tran and the Mongols were also changed after meeting the circumstances mentioned below.

4.3.1 Case 1

In the case that E_2 in the $[100, 199]$, the Mongols actively attacks, the Mongols' HP will be increased to 1.3 times, the Tran gains topographical advantage at the attack position. The Tran's HP will be increased to 1.1 times.

Example 9: With $HP_1 = 100$, $HP_2 = 200$, $E_2 = 120$ $ID_1 = 0$ $ID_2 = 0$, we have:

$$HP_1 = 110, HP_2 = 260$$

$$\mu = \frac{2 \times 110 \times 260}{110 + 260} \simeq 155$$

$$HP_1 = HP_1 - |HP_2 - \mu| = 110 - |260 - 155| = 5$$

$$HP_2 = HP_2 - |HP_1 - \mu| = 260 - |110 - 155| = 215$$

output will be -1 because we lost.

4.3.2   Case 2

In the case that E_2 in the $[200, 299]$, our army actively attack, our army's HP is increased to 1.7 times, the Mongols have been prepared so the HP is increased to 1.2 times.

4.3.3   Case 3

In the case that E_2 in the $[300, 399]$, our army are fully equipped with equipment and weapons along with a battle horse, so our strength will be increased by $E_2 \% 100$ units. However, if $E_2 < 350$, the power will be increased by default is 30.

4.3.4   Case 4

In the case that E_2 in $[400, 499]$, our cavalry joins the battle with the soldiers who rode elephants, which makes our army's HP to be increased by 30%. The enemy after seeing the strong force of our side, have reduced their willpower, the enemy's HP is reduced by 20%.

The son of Uriyangqatai, Aju (18 years old) ordered the cavalry to shoot arrows in the eyes of the elephant, causing the elephant pain and panic, turning back and forth in the Tran's formation, the Tran's HP is reduced by a half. The Tran's HP will decrease by 50% prior to the battle.

4.3.5   Case 5

This is always the case after one of these four described cases has ended. Due to the damage in the battle, and the advice from General Le Tan, the King Tran decides to withdraw troops. The power of our army was reduced by 20%, even if that cavalry was led by the king. The result will be returned in one of the four cases above depending on E_2.

Example 10: With $\mathbf{HP_1} = 100$, $\mathbf{HP_2} = 200$, $\mathbf{E_2} = 120$, $\mathbf{ID_1} = 0$, $\mathbf{ID_2} = 0$, we have:

$$HP_1 = 110, HP_2 = 260$$

$$\mu = \frac{2 \times 110 \times 260}{110 + 260} \simeq 155$$

$$HP_1 = HP_1 - |HP_2 - \mu| = 110 - |260 - 155| = 5$$

$$HP_2 = HP_2 - |HP_1 - \mu| = 260 - |110 - 155| = 215$$

After the battle, HP_1 is reduced to 4, the result will be -1 due to our loss.

4.4 Mission 3: Battle of Phu Lo (2 points)

Students were asked to write a function to describe the battle process as follows:

- Function name: secondBattle
- Input parameters:
    - The hit points of the Tran dynasty HP_1.
    - The hit points of the Mongol Empire HP_2.
    - The number determines the existence of a special character of the Tran Dynasty ID_1.
    - The number determines the existence of a special character of the Mongol Empire ID_2.
    - Event E_3
- Return value: An integer represents a win or loss (1 if we win, 0 if a tie, -1 if the enemy wins). The hit points of the Tran and the Mongols were also changed in the cases mentioned below.

After withdrawing, the HP of the Tran army recovered, increasing to 1.4 times. For the Mongols, because they won the first battle, their morale increased, their HP increased to 1.6 times.

Tran Thai Tong then went and asked one of his top commanders, Defender-in-chief Tran Nhat Hieu, what to do. Nhat Hieu sat leaning on his boat and did not get up. He just traced in the water beside the boat the two characters, "enter Song." What Defender-in-chief Tran Nhat Hieu was saying was that Tran Thai Tong should go and seek the protection of the Song Dynasty. Why did he trace these characters in the water rather than say this to Tran Thai Tong directly? Although we can not answer that question with certainty, it would appear that Tran Nhat Hieu was suggesting that Tran Thai Tong should abandon his kingdom and go to China to save his own skin. Then, the king took a boat to ask Grand Preceptor Tran Thu Do. When he heard the king's question about the plan to preserve the country, Thu Do:

"My head has not fallen to the ground, Your Majesty should not worry about anything else."

After listening to this, the king's spirit in preserving the country has grown, and is now even more strengthened. If the cavalry is commanded by King Tran, after listening to Grand Preceptor Tran Thu Do, everyone's HP will double.

4.4.1 Case 1

In the case of E_3 in $[100, 199]$, the next day, January 18, 1258, the two sides encountered again at Phu Lo, King Tran had previously cut the Phu Lo bridge. The two sides faced each other across a river (Ca Lo River) to battle, the Mongols were still people crossing the river to destroy the battle. The Mongols wanted to cross the river but could not find the depths, so they went along the riverbank to shoot arrows into the water, where the arrows shot down but could not rise would be shallow, then used cavalry to cross the river. Due to the waste of arrows and a few Mongol soldiers unable to control their horses across the river, their HP was reduced.

Mongolian HP has been reduced by 5%. However, if their commander-in-chief was there, due to their martial arts talent, the Mongolian cavalry's HP would not decrease. If the result is that the Mongols win, our HP won't change.

> **Example 11:** With $HP_1 = 100$, $HP_2 = 200$, $E_3 = 120$, $ID_1 = 0$, $ID_2 = 0$, HP of both sides is recovered:
> $$HP_1 = 140, HP_2 = 320$$
>
> The Mongols lose their HP after crossing the river due to their lack of command:
>
> $$HP_2 = 304$$
>
> $$\mu = \frac{2 \times 140 \times 304}{140 + 304} \simeq 192$$
> $$HP_1 = HP_1 - |HP_2 - \mu| = 140 - |304 - 192| = 28$$
> $$HP_2 = HP_2 - |HP_1 - \mu| = 304 - |192 - 140| = 252$$
>
> The result is -1 because we lose. However, HP_1 remains constant and equals 140.

4.4.2 Case 2

In the case of E_3 in $[200, 299]$,Tran continued military disadvantage, and again they actively withdraw. After that, the Tran army actively withdrew from Thang Long. In this case no battles will occur, the result will always be a draw. The Mongols' HP is reduced by 5% by

crossing the river, unless commander-in-chief Uriyangkhadai is in the case 1. Our own HP remains unchanged.

Example 12: With $\mathbf{HP_1} = 100$, $\mathbf{HP_2} = 200$, $\mathbf{E_3} = 220$, $\mathbf{ID_1} = 0$, $\mathbf{ID_2} = 0$, HP of both sides is recovered:

$$HP_1 = 140, HP_2 = 320$$

The Mongols lose their HP after crossing the river due to their lack of command:

$$HP_2 = 304$$

The result returns 0 due to a tie.

4.5 Mission 4: Tran army counterattacked (2 points)

Students were asked to write a function to describe the battle process as follows:

- Function name: finalBattle
- Input parameters:
    - The hit points of the Tran dynasty $\mathbf{HP_1}$.
    - The hit points of the Mongol Empire $\mathbf{HP_2}$.
    - The number determines the existence of a special character of the Tran Dynasty $\mathbf{ID_1}$.
    - The number determines the existence of a special character of the Mongol Empire $\mathbf{ID_2}$.
    - Event $\mathbf{E_4}$
- Return value: An integer represents a win or loss (1 if we win, 0 if a tie, -1 if the enemy wins). The hit points of the Tran and the Mongols were also changed in the cases mentioned below.

Capturing the capital after only two battles, but the empty capital was a big problem for the Mongol army. The raids for food in the suburbs and surrounding areas did not show much results, and the Mongols ran into food shortages.

4.5.1   Case 1

In the case of E_4 in $[100, 199]$, King Tran implemented the strategy of *"Vacated or evacuated houses, abandoned (or uncultivated) gardens"* took away all the food in the city. Although the Mongols captured Thang Long, they lacked food. The Mongols' HP decreased by 90% due to starvation and disease. The cavalry team with the commander-in-chief gets more food and medicine, so they can hold out longer than the other cavalry units, so their HP is only reduced by 70%. The result returns 0 because there is no battle.

4.5.2   Case 2

In the case of E_4 in $[200, 299]$ section, Tran Thai Tong and Crown Prince Tran Hoang took a boat up the river, suddenly hitting the Mongols. The Mongols believed that Tran's forces were exhausted after the first defeat, so they were very subjective, so they could not turn their hands on the attack when they were attacked, and they lost heavily. The result is that our army wins the battle with all enemy HP (including the enemy cavalry team with the commander-in-chief). The enemy's HP now returns to 0. Our side's HP remains unchanged.

4.6   Ending

After 10 days, King Tran and Prince led our army to counterattack and defeat the Mongols in the battle of Dong Bo Dau. The Mongols could not succumb and fled Thang Long and retreated to the country. They fled along the road along the Red River. Our army arranged an ethnic minority force in the mountainous Northwest led by Ha Bong to ambush the Mong Nguyen troops on their retreating way. The first resistance war against Mong Nguyen army and people of Dai Viet ended with a resounding victory.

King Tran Thai Tong returned to the capital, with hundreds of Dai Viet families living in peace as before. That same year (1258), King Tran Thai Tong passed the throne to Prince Hoang, or Tran Thanh Tong.

5   Submission

Students submit a file: **firstFight.h** in the site "Ky thuat lap trinh (CO1027)_HK202"

Deadlines for submission are announced at the submission site above. By the deadline for submission, the link will be locked automatically, so students will not be able to submit them

late. To avoid possible risks at the time of submission, students MUST submit their papers at least **one hour** before the deadline.

6   Handling fraud

Assignment must be done BY YOURSELF. Students will be considered fraudulent if:

- There is an unusual similarity between the source code of the submissions. In this case, ALL submissions are considered fraudulent. Therefore, students must protect the source code of their assignments.
- Students do not understand the source code written by themselves, except for the parts of the code provided in the initialization program. Students can consult from any source, but make sure they understand the meaning of all the lines they write. In the case of not understanding the source code of the place they refer, students are especially warned NOT to use this source code; instead use what has been learned to write programs.
- Mistakenly submit another student's assignment on your personal account.

In the case of cheating, students will get a 0 for the entire subject (not just the assignment).

DO NOT ACCEPT ANY INTERPRETATION AND NO EXCEPTION!

After each major assignment has been submitted, a number of students will be called for random interviews to prove that the assignment has been done by themselves.

7   Change from previous version

- **Section 4.2**: A clearer definition of how the two sides change HP in battle is as follows: In the case of a battle involving a king or a commander-in-chief, if the result is a tie, the HP of two cavalry teams remains unchanged, otherwise the cavalry losing the battle will return HP to 0, while the winning cavalry team will remain HP. Conversely, if there is no king or commander-in-chief, HP on both sides during the battle will be deducted according to the rules specified in the heading.
- **Section 3**: For E_i, if it falls outside $[0, 999]$, nothing happens, but the function still returns -999.
- **Section 4.1**: Remove "If the cavalry team is commanded by the king or the commander-in-chief, even if the amount is less than the value of the item, they can buy it."
- **Note on testcase**: testcase will not include the circumstance where ID_1 and ID_2 point to the same king or commander-in-chief. For example, there will be no testcase where

$ID_1 = 1$ and $ID_2 = 1$. In other words, ID_1 just can be 0 or 1, ID_2 just can be 0 or 2. Moreover, there will be no testcase where $HP_1 = 0$ or $HP_2 = 0$ in the input files.

- **Section 4.1.2**: Update: If the king or commander-in-chief do not have enough money, they cannot buy the stuffs

- **Section 4.3.4**: The Tran's HP will decrease by 50% prior to the battle.

- **Section 4.1.1** The king is allowed to buy items without having money.

- **Section 4.4.1** If there exists commander-in-chief but not the king, the Tran's cavalry will lose, but its HP remains unchanged.

References

[1] Ha Van Tan and Pham Thi Tam (1972), Cuoc khang chien chong xam luoc Nguyen Mong the ky XIII, Publishers Quan doi Nhan dan, 2003 reprint, Chapter III: "Cuoc khang chien lan thu nhat", page 66 – 88.

[2] Video TOM TAT NHANH DIEN BIEN CHIEN TRANH MONG NGUYEN-DAI VIET LAN 1 by NanMin Rang at `https://www.youtube.com/watch?v=BjrclMeW-bI`

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