

## Problem 3 – Crypto Blockchain

The next task for our hero Sam is to **hack the main top-secret facility server**, used to manage all of Nikoladze's social media. He's already reached the server, and now it's time to decrypt the information on it to see if it's valuable or not. Luckily, you're Sam's top unpaid intern, and he has tasked you with figuring out the algorithm to decrypting the data. So, plug in some headphones and put on some hacker music. It's time to **decrypt the Crypto Blockchain**.

The **Crypto Blockchain** is a special **sequence of characters**, which is comprised of **several lines**. Each line is **always 16 characters long**. Inside these lines, there are several **Crypto Blocks** and some garbage data around them. Here's what a sample **Crypto Blockchain** looks like:

```
OktJULP\{FT*n*uk
_123120137130v}M
OoHw_[1291201341
34r`wkR]00000000
```

The first step is to **condense** the **Crypto Blockchain** into **one line**.

The next step is to search for **special substrings** inside it, called **Crypto Blocks**. Each valid **Crypto Block** has the following characteristics:

- It's **enclosed** in either **brackets { }** or **square brackets [ ]**.
  - If it contains **mixed opening/closing brackets** (such as { ] or [ }, **ignore that Crypto Block entirely**)
- It contains **any printable ASCII character** inside it
- It contains **at least three digits in a row**.
  - If the number of digits it contains **cannot be split into threes** (e.g. 8 digits), **ignore the Crypto Block**.

We're looking for the **digits** inside each **Crypto Block**, which are actually **encoded ASCII characters**. Each character is represented by **3 digits (converted to a number)**, and the **sequence of digits** can be split into threes to figure out the sequence of characters present in that crypto block.

Looking at these characteristics, we can look at the above expanded Crypto Blockchain and **find all the Crypto Blocks** (**green** represents the **entire block**, **yellow** represents the **digits** we're looking for):

```
OktJULP\{FT*n*uk_123120137130v}MOoHw_[129120134134r`wkR]00000000
```

Once we **find** the **digits** in one crypto block, we split them into **threes** and **convert** them to a **string of characters** by **subtracting the length** of the **entire crypto block** from **each number individually**.

The final step is performing this algorithm over **all the crypto blocks individually** and **concatenating** the result.

## Input

- On the **first line** of input, you will receive **n** – the **number of rows** the **room** will consist of
- On the next **n lines**, you will receive the **Crypto Blockchain**, a sequence of **16 characters**.

## Output

- Print the **decrypted** and **concatenated** text.

## Constraints

- Crypto blocks will always contain **zero or one sequence of numbers**.
- There will **always** be a **valid crypto block** in each crypto blockchain.

## Examples

Input	Output	Comments
4 OktJULP\{FT*n*uk_123120137130v}M OoHw_[129120134134r`wkR]00000000	darkness	Block 1: {FT*n*uk_123120137130v} Numbers: 123, 120, 137, 130. Crypto Block Length: 23 Subtracted ASCII codes: 100, 97, 114, 107 → dark Block 2: [129120134134r`wkR] Numbers: 129, 120, 134, 134. Crypto Block Length: 19 Subtracted ASCII codes: 110, 101, 115, 115 → ness
7 [>K.l ~T117152152153081069148155138z]#YQej@<+; [ 137055127124137124056]aG\'# J qf L y!111632]!u<@: <-&D00000000000000	Psst, over here!	Block 1: [>K.l ~T117152152153081069148155138z] Numbers: 117, 152, 152, 153, ... Crypto Block Length: 37 Subtracted ASCII codes: 80, 115, 115, 116, ... → Psst, ove Block 2: [137055127124137124056] Numbers: 137, 55, 127, 124, ... Crypto Block Length: 23 Subtracted ASCII codes: 114, 32, 104, 101, ... → r here! Block 3: {L y!111632} Brackets are different → ignore
4 [099134134130055142127]{126145061091102089061131140}[128121111]0	Look what >I< found	Block 1: [099134134130055142127] Numbers: 99, 134, 134, 130, ... Crypto Block Length: 23 Subtracted ASCII codes: 76, 111, 111, 107, ... → Look wh Block 2: {126145061091102089061131140} Numbers: 126, 145, 61, 91, ... Crypto Block Length: 29 Subtracted ASCII codes: 97, 116, 32, 62, ... → at >I< fo Block 3: [128121111] Numbers: 128, 121, 111. Crypto Block Length: 11 Subtracted ASCII codes: 117, 110, 100, ... → und