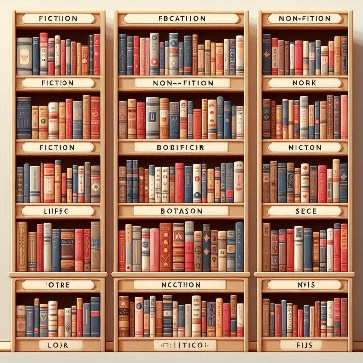
# 03. Classifying Books



*Help librarians classify their newly arrived books by genre.*

Write a function named **classify\_books** that takes a **variable number** of **arguments** (tuples)and **keyword arguments** (key-value pairs).

The function is designed to help **organize books** into **different genres** and produce a **sorted summary**.

The **arguments** will be **passed** as follows:

* The **first** **group of arguments** will be an **unknown** **number** of **tuples**.
* The **first** element in the **tuple** is the **genre** ofthebook(string). Each book belongs to one of **two genres**: **"fiction"** or **"non\_fiction"**. See the [**Examples**](#_Examples) section.
* The **second** element is the **book's** **title** (string). Each book **title** is **unique**.
* The **following group** will be an **unknown number** of **keyword arguments** (**key-value pairs**).
* Each **key** represents the **unique ISBN** (standardized book number as string).
* Each **value** represents the **title** of the **book** (string).

After receiving the information and calling the function:

* **Group** the books into two categories:

**Fiction** books

* **Non-fiction** books
* **Sort** the books:
* **Fiction books** should be **sorted alphabetically** in **ascending order** by **ISBN**.
* **Non-fiction books** should be **sorted alphabetically** in **descending order** by **ISBN**.
* **Format the output as follows:**
* If there are **fiction books**, start with the **heading**: **"Fiction Books:"**
* **Prefix** each **book info** with **"~~~"** (three tildes).
* If there are **non-fiction books**, follow with the **heading**: **"Non-Fiction Books:"**
* **Prefix** each **book info** with **"\*\*\*"** (three asterisks).
* If a **category is empty**, **omit** its **heading entirely** from the output. See the [**Examples**](#_Examples) section.

**In the end, return** the output as described below.

***Note****:* ***Submit only*** *the* ***function*** *to the* ***Judge system****.*

## Input

* There will be **no input from the console**, only arguments passed to your function.

## Output

* The **output** should look like this (each string should be on a new line):
* **Fiction books** are **listed first** (if any), **followed** by **non-fiction books** (if any).

**"Fiction Books:**

**~~~{ISBN1}#{book\_title1}**

**...**

**~~~{ISBNn}#{book\_titlen}**

**Non-Fiction Books:**

**\*\*\*{ISBN1}#{book\_title1}**

**...**

**\*\*\*{ISBNn}#{book\_titlen}"**

## Constraints

* The **arguments** willalways come **before** the **keyword arguments**.
* Each **tuple** will contain a valid **genre** and **book's title**.
* There will always be **at least** **one** **tuple** and **keyword argument**.
* All book **titles** will be **unique**, and **genres** will always be **valid** ("**fiction**" or "**non\_fiction**").
* Each book will have a **valid** and **unique** **ISBN**.

## Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| print(classify\_books(  ("fiction", "Brave New World"),  ("non\_fiction", "The Art of War"),  NF3421NN="The Art of War",  FF1234UU="Brave New World"  )) | Fiction Books:  ~~~FF1234UU#Brave New World  Non-Fiction Books:  \*\*\*NF3421NN#The Art of War |
| print(classify\_books(  ("non\_fiction", "The Art of War"),  ("fiction", "The Great Gatsby"),  ("non\_fiction", "A Brief History of Time"),  ("fiction", "Brave New World"),  FF1234HH="The Great Gatsby",  NF3845UU="A Brief History of Time",  NF3421NN="The Art of War",  FF1234UU="Brave New World"  )) | Fiction Books:  ~~~FF1234HH#The Great Gatsby  ~~~FF1234UU#Brave New World  Non-Fiction Books:  \*\*\*NF3845UU#A Brief History of Time  \*\*\*NF3421NN#The Art of War |
| print(classify\_books(  ("fiction", "Brave New World"),  ("fiction", "The Catcher in the Rye"),  ("fiction", "1984"),  FICCITRZZ="The Catcher in the Rye",  FIC1984XX="1984",  FICBNWYYY="Brave New World"  )) | Fiction Books:  ~~~FIC1984XX#1984  ~~~FICBNWYYY#Brave New World  ~~~FICCITRZZ#The Catcher in the Rye |
| print(classify\_books(  ("non\_fiction", "Sapiens"),  ("non\_fiction", "Homo Deus"),  ("non\_fiction", "The Selfish Gene"),  NF123ABC="Sapiens",  NF987XYZ="Homo Deus",  NF456DEF="The Selfish Gene"  )) | Non-Fiction Books:  \*\*\*NF987XYZ#Homo Deus  \*\*\*NF456DEF#The Selfish Gene  \*\*\*NF123ABC#Sapiens |