

## String and Type Information

Using the documentation for `java.util.regex.Pattern` as a resource, write and test a regular expression that checks a sentence to see that it begins with a capital letter and ends with a period.

Approach

### Defined the Regular Expression:

The regular expression `^[A-Z][^\.]*\.$` is used to check that a sentence starts with a capital letter and ends with a period.

- `^` indicates the start of the string.
- `[A-Z]` matches any capital letter.
- `[^\.]*` matches zero or more characters that are not a period.
- `\.` matches a literal period (`.`).
- `$` indicates the end of the string.

### Compile the Regular Expression:

The regular expression is compiled into a `Pattern` object.

### Perform a Match Operation:

A `Matcher` object is created using the pattern and the input sentence.

The `find` method of the `Matcher` object is used to check if the sentence matches the pattern.

### Output the Result:

If the pattern matches the sentence, a message indicating that the sentence is valid is printed.

Otherwise, a message indicating that the sentence is invalid is printed.

## Output

```
"C:\Program Files\Java\jdk-18.0.1.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.1.4\lib\idea_rt.j
Enter a sentence=
The sparrow.
Given The sparrow.is a valid sentence
```

```
"C:\Program Files\Java\jdk-18.0.1.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.1.4\lib\idea_rt.je
Enter a sentence=
Hi,how are you. and are you ok?
Sorry,Hi,how are you. and are you ok? is a invalid sentence

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk-18.0.1.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.1.4\lib\idea_rt.je
Enter a sentence=
hi,I am tejasvi.
Sorry,hi,I am tejasvi. is a invalid sentence

Process finished with exit code 0
```