Theory of Computation Project

The first part:

This part of code take a regular expression as input and give examples of strings accepted by this regular expression as output and can also take a string and check if it accepted or not .

Code :

This lines call the rstr and re libraries to use it in the code

```
import rstr
import re
```

This statement use to ask the user to input the regular expression

```
regex=input("Enter the regular expression :\n")
```

This statement use to print examples for strings that accepted by the re

```
print("Examples for this regular expression are :\n",rstr.xeger(regex))
```

This statement use to ask the user to input if he want to check some string acceptance

```
ch=input("do yo want to check specific string acceptance :Enter Y :\n")
```

This piece of code ask the user to input string if he want

```
if ch =='y' or ch=='Y':
        string=input("Enter string :\n")
```

This piece of code use to check if the string accepted or not and give the result to the user as output .

The run :

Example 1:

```
Enter the regular expression :
aa*
Examples for this regular expression are :
 aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa

do yo want to check specific string acceptance :Enter Y :
y

Enter string :
a
accepted
```

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Example2:

```
Enter the regular expression :
(a|b)*
Examples for this regular expression are :
 aaabbaabbaababbbbabbabbaabbbbaaabaaabbbbbbaa

do yo want to check specific string acceptance :Enter Y :
y

Enter string :
bbba
```

Example 4:

```
Enter the regular expression :
a+b*c+
Examples for this regular expression are :
 aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
aaaaaaaaaaaaaaaaabbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbccccc
c

do yo want to check specific string acceptance :Enter Y :
y

Enter string :
b
not accepted
```