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Roll NO: C 19
Software Proficiency Program II (Python Programming)

Experiment No. 6

Aim: Perform string operations like slicing, concatenation, searching, and formatting.

1. Write a Python program to read a user's first and last name, create a nickname by slicing and concatenating parts of both names, search for a specific letter in the full name, and display the result using string formatting.

Code:

```
first = input("Enter your first name: ")  
last = input("Enter your last name: ")  
  
nickname = first[:3] + last[:3]  
letter = input("Enter a letter to search in full name: ")  
full_name = first + " " + last  
  
print(f'Full Name: {full_name}')  
print(f'Nickname: {nickname}')  
print(f'Letter '{letter}' found: {letter in full_name}')
```

Output:

```
Enter your first name: Max  
Enter your last name: Jonas  
Enter a letter to search in full name: a  
Full Name: Max Jonas  
Nickname: MaxJon  
Letter 'a' found: True
```

2. Write a program to process the string "PythonProgrammingBasics", extract specific parts using slicing, join them using concatenation, check if a substring exists, and display the formatted result.

Code:

```
text = "PythonProgrammingBasics"  
part1 = text[:6]  
part2 = text[6:17]  
part3 = text[17:]  
  
new_text = part1 + " " + part2 + " " + part3  
check = "Programming" in text  
  
print(f'Extracted: {new_text}')  
print(f'Substring 'Programming' found: {check}')
```

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```
Extracted: Python Programming Basics
Substring 'Programming' found: True
```

3. Write a program to accept city and state names, generate a short code using slicing and concatenation, search for a character in the city name, and print all information using string formatting.

Code:

```
city = input("Enter city name: ")
state = input("Enter state name: ")

code = city[:3] + state[:3]
char = input("Enter a character to search in city name: ")

print(f'City: {city}, State: {state}, Code: {code}')
print(f'Character '{char}' found in city: {char in city}')
```

Output:

```
Enter city name: Kolhapur
Enter state name: Maharashtra
Enter a character to search in city name: p
City: Kolhapur, State: Maharashtra, Code: KolMah
Character 'p' found in city: True
```

4. Develop a program that reads an email address, extracts the username before '@', concatenates it with a new domain, checks for digits in the username, and displays the formatted new email.

Code:

```
email = input("Enter your email: ")
username = email.split("@")[0]
new_email = username + "@example.com"
has_digit = any(ch.isdigit() for ch in username)

print(f'Old Email: {email}')
print(f'New Email: {new_email}')
print(f'Contains digits: {has_digit}')

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```

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```
Enter your email: julie123@gmail.com
Old Email: julie123@gmail.com
New Email: julie123@example.com
Contains digits: True
```

5. Write a Python program that takes a word, reverses it using slicing, concatenates it with the original, searches for a matching character, and formats the output for display.

Code:

```
word = input("Enter a word: ")
reversed_word = word[::-1]
combined = word + reversed_word
char = input("Enter a character to search: ")
print(f'Original + Reversed: {combined}')
print(f'Character '{char}' found: {char in combined}')
```

Output:

```
Enter a word: Apple
Enter a character to search: z
Original + Reversed: AppleelppA
Character 'z' found: False
```

6. Write a program using the string "Knowledge is power" to extract specific words with slicing, join them to form a new sentence, search for a given word, and print the formatted sentence.

Code:

```
text = "Knowledge is power"
part1 = text[:9]
part2 = text[13:]
new_sentence = part1 + " gives " + part2
search_word = input("Enter a word to search: ")

print(f'New Sentence: {new_sentence}')
print(f'Word '{search_word}' found: {search_word in text}')
Output:
```

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```
Enter a word to search: Grapes
New Sentence: Knowledge gives power
Word 'Grapes' found: False
```

7. Write a Python program that accepts two words, extracts specific portions using slicing, concatenates them into a phrase, searches for "ing", and displays the result in a formatted manner.

Code:

```
w1 = input("Enter first word: ")
w2 = input("Enter second word: ")
```

```
phrase = w1[:3] + w2[-3:]
found = "ing" in (w1 + w2)
```

```
print(f'New Phrase: {phrase}')
print(f"ing' found: {found}")
```

Output:

```
Enter first word: Dance
Enter second word: Buy
New Phrase: DanBuy
'ing' found: False
```

8. Write a program that accepts two sentences, extracts parts from both using slicing, combines them, searches for a common substring, and prints a formatted comparison message.

Code:

```
s1 = input("Enter first sentence: ")
s2 = input("Enter second sentence: ")
```

```
mix = s1[:5] + s2[-5:]
```

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```
common = input("Enter substring to search: ")  
  
print(f'Combined: {mix}')  
print(f'Common substring '{common}' found: {common in (s1 + s2)}')
```

Output:

```
Enter first sentence: Python is fun  
Enter second sentence: I love programming  
Enter substring to search: love  
Combined: Pythomming  
Common substring 'love' found: True
```

9. Write a Python program to accept a movie name and release year, create a short movie code using slicing and concatenation, check for a specific word in the movie name, and format the final output.

Code:

```
movie = input("Enter movie name: ")  
year = input("Enter release year: ")  
  
code = movie[:3].upper() + year[-2:]  
word = input("Enter a word to search in movie name: ")
```

```
print(f'Movie: {movie} ({year})')  
print(f'Movie Code: {code}')  
print(f'Word '{word}' found: {word in movie}')
```

Output:

```
Enter movie name: Titanic  
Enter release year: 1985  
Enter a word to search in movie name: tit  
Movie: Titanic (1985)  
Movie Code: TIT85  
Word 'tit' found: False
```

10. Write a Python program to generate a simple password by slicing and concatenating parts of a user's name and birth year, search for digits in it, and display the password using formatted output.

Code:

```
name = input("Enter your name: ")
```

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```
birth = input("Enter birth year: ")

password = name[:3] + birth[-3:]
has_digit = any(ch.isdigit() for ch in password)

print(f'Generated Password: {password}')
print(f'Contains digits: {has_digit}')
```

Output:

```
Enter your name: Rose
Enter birth year: 2000
Generated Password: Ros000
Contains digits: True
```

11. Write a program that accepts a college name and department, creates a department code using slicing and concatenation, searches for the word "Tech", and prints the formatted details.

Code:

```
college = input("Enter college name: ")
dept = input("Enter department name: ")

code = college[:3] + dept[:3]
found = "Tech" in dept

print(f'College: {college}, Department: {dept}, Code: {code}')
print(f"Tech' found: {found}")
```

Output:

```
Enter college name: Sanjay Ghodawat University
Enter department name: CSE
College: Sanjay Ghodawat University, Department: CSE, Code: SanCSE
'Tech' found: False
```

12. Write a Python program that reads a product name and category, forms a label using sliced parts, searches for a specific substring, and prints the final label using string formatting.

Code:

```
product = input("Enter product name: ")
category = input("Enter category: ")
```

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```
label = product[:3] + category[:3]
search = input("Enter substring to search: ")

print(f"Product Label: {label}")
print(f"Substring '{search}' found: {search in product}")
```

Output:

```
Enter product name: T-shirt
Enter category: Cloths
Enter substring to search: shirt
Product Label: T-sClo
Substring 'shirt' found: True
```

13. Write a program to input a book title and author name, slice and join parts of both, search for a word in the title, and display the information in a single formatted string.

Code:

```
book = input("Enter book title: ")
author = input("Enter author name: ")

combined = book[:4] + author[:4]
word = input("Enter a word to search in title: ")
```

```
print(f"Book: {book}, Author: {author}, Code: {combined}")
print(f"Word '{word}' found in title: {word in book}")
```

Output:

```
Enter book title: Chaava
Enter author name: Shivaji Sawant
Enter a word to search in title: h
Book: Chaava, Author: Shivaji Sawant, Code: ChaaShiv
Word 'h' found in title: True
```

14. Write a Python program to create a social media username by slicing and concatenating parts of a user's name and year of birth, search for vowels in it, and display the formatted username.

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Code:

```
name = input("Enter your name: ")  
year = input("Enter year of birth: ")  
  
username = name[:4].lower() + year[-2:]  
vowels = [v for v in username if v in 'aeiou']  
  
print(f'Username: {username}')  
print(f'Vowels found: {", ".join(vowels)} if vowels else "None"')  
Output:
```

```
Enter your name: Joey  
Enter year of birth: 1985  
Username: joey85  
Vowels found: o, e
```

15. Write a program that accepts a company name, forms a domain name by slicing and concatenation, checks whether "AI" exists in the name, and prints the formatted domain details.

Code:

```
company = input("Enter company name: ")  
domain = company[:4].lower() + ".com"  
found = "AI" in company.upper()
```

```
print(f'Company: {company}')  
print(f'Domain: {domain}')  
print(f"AI' found in name: {found}")
```

Output:

```
Enter company name: Google  
Company: Google  
Domain: goog.com  
'AI' found in name: False
```