

SET – C

1. Write a Python program to extract all URLs (web links) from a block of text using regular expressions. Use the Cursor AI tool with zero-shot prompting to generate the solution

Prompt :

Create a Python program to extract all URLs (web links) from a block of text using regular expressions. Take the input from user .

Cursor :

```
task1.py > ...
1  import re
2
3  text = input("Enter the text: ")
4
5  # Regex pattern for URLs (http, https, www)
6  url_pattern = r'(https?://[^\s]+|www\.[^\s]+)'
7
8  urls = re.findall(url_pattern, text)
9
10 print("Extracted URLs:")
11 for url in urls:
12     print(url)
13
```

Problems Output Debug Console **Terminal** Ports

```
ocuments/AIAC/AI Exam Set c/task1.py"
Enter the text: I can avaiable at www.sru.edu.in
Extracted URLs:
www.sru.edu.in
```

- 2) Given a list of books with their genres, write a Python function that recommends books based on a user's preferred genre. Use the Cursor AI tool. Use few shot prompting.

Prompt : write a Python function that recommends books based on a user's preferred genre.

```
task2.py > ...
1  def recommend_books_by_genre(books, preferred_genre):
2      recommended = [book for book, genre in books if genre.lower() == preferred_genre.lower()]
3      return recommended
4
5      (variable) books: list[tuple[str, str]]
6  books = [
7      ("To Kill a Mockingbird", "Fiction"),
8      ("A Brief History of Time", "Science"),
9      ("The Great Gatsby", "Fiction"),
10     ("The Art of Computer Programming", "Technology"),
11     ("The Hobbit", "Fantasy"),
12     ("The Lord of the Rings", "Fantasy"),
13     ("Sapiens", "History"),
14     ("1984", "Fiction"),
15     ("The Selfish Gene", "Science"),
16     ("Clean Code", "Technology")

```

Problems Output Debug Console **Terminal** Ports

```
PS C:\Users\Vardhan\Documents\AIAC\AI Exam Set c> & C:/Users/Vardhan/AppData/Local/Programs/Python/Python312/p
ocuments/AIAC/AI Exam Set c/task2.py"
ocuments/AIAC/AI Exam Set c/task2.py"
Enter your preferred genre: Technology
Recommended books in the genre 'Technology':
- The Art of Computer Programming
- Clean Code

```

3) Write a Python program that generates all prime numbers between start and end (both inclusive) entered by the user. Use GitHub Copilot along with VS Code. Use few shot prompting

Prompt :

Write a Python program that generates all prime numbers between start and end (both inclusive) entered by the user

```
task3Copilot.py > ...
1  def is_prime(n):
2      if n < 2:
3          return False
4      for i in range(2, int(n**0.5) + 1):
5          if n % i == 0:
6              return False
7      return True
8
9  start = int(input("Enter the start number: "))
10 end = int(input("Enter the end number: "))
11
12 print(f"Prime numbers between {start} and {end}:")
13 for num in range(start, end + 1):
14     if is_prime(num):
15         print(num, end=' ')
16 print()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
ardhan/Documents/AIAC/AI Exam Set c/task3Copilot.py""
PS C:\Users\Vardhan\Documents\AIAC\AI Exam Set c> & C:/Users/Vardhan/AppData/Local/Programs/Py
han/Documents/AIAC/AI Exam Set c/task3Copilot.py"
Enter the start number: 2
Enter the end number: 20
Prime numbers between 2 and 20:
2 3 5 7 11 13 17 19
PS C:\Users\Vardhan\Documents\AIAC\AI Exam Set c> |
```

4)) Write Python code that takes a list of student names and generates institutional email IDs in the format: @sru.edu.in Example: "Anita Sharma" → asharma@sru.edu.in

Prompt :

Generate the code by using Python code that takes a list of student names and generates institutional email IDs in the format: @sru.edu.in

Welcome (preview)

```
1 # Get the number of students
2 n = int(input("Enter number of students: "))
3
4 emails = []
5 for _ in range(n):
6     name = input("Enter student name: ").strip()
7     parts = name.split()
8     if len(parts) < 2:
9         print("Please enter both first and last name.")
10        continue
11    first, last = parts[0], parts[-1]
12    email = f"{first[0].lower()}{last.lower()}@sru.edu.in"
13    emails.append(email)
14
15 print("Generated Email IDs:")
16 for email in emails:
17     print(email)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Python + -

```
PS C:\Users\Vardhan\Documents\AIAC\AI Exam Set c> & C:/Users/Vardhan/AppData/Local/Programs/Python/Python312/python.exe "
PS C:\Users\Vardhan\Documents\AIAC\AI Exam Set c> & C:/Users/Vardhan/AppData/Local/Programs/Python/Python312/python.exe "
han/Documents/AIAC/AI Exam Set c/task4copilot.py"
Enter number of students: 1
Enter student name: Thanniru Vardhan
Generated Email IDs:
tvardhan@sru.edu.in
```