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|  | **SR UNIVERSITY Campus Warangal** |
| **Program:** II - B.Tech (CS& AI) |
| **Professor(a):** Dr. Venkataramana Veeramsetty, Professor |
| **Department:** Computer Science and AI **Semester:** I |
| **AI Assisted Coding - Lab Test 1 - Set C** |
| Instructions:  1- Use AI Tools like VScode+Github Copilot and Cursor AI for code generation  2- This Assignment will be evaluated for 15 Marks (10 Marks for Tasks and 5 Marks for viva based on regular lab activities) 3- Students need to submit assignment through canvas before due date  4- Students who are absent for lab will receive 0 Marks | |

1. (2 Marks) 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:Write a python program to extract all URLs (web links) from a text using regular expression.

Code:*import* re

def extract\_urls(*text*):

*# Regex pattern to match http, https, and www URLs*

    url\_pattern = r'(https?://[^\s]+|www\.[^\s]+)'

    urls = re.findall(url\_pattern, *text*)

*return* urls

*if* \_\_name\_\_ == "\_\_main\_\_":

    sample\_text = """

    Here are some links: https://www.example.com, http://test.org/page?query=1,

    and also www.sample-site.net. Not a link: ftp://not-a-web-link.com

    """

    found\_urls = extract\_urls(sample\_text)

    print("Extracted URLs:")

*for* url *in* found\_urls:

        print(url)

Output:

PS C:\Users\KARTHIK\OneDrive\Documents\Labtest-1> & C:/Users/KARTHIK/AppData/Local/Programs/Python/Python313/python.exe c:/Users/KARTHIK/OneDrive/Documents/Labtest-1/task2.py

Enter book names (comma separated): To kill mocking bird,A brief history of time,The selfish gene,1984

Enter genres for each book (comma separated, in order): Fiction,science,science fiction

Enter genre: fiction

Recommended books:

To kill mocking bird

1. (2 Marks) 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 recommendsbooks based on a user’s preferred genre.First take input from the user as book names and genres ,then find book according to the genres .ex: input: enter book name:to kill a minking bird , enter genres: Fiction. enter genre:Fiction output: To kill minking bird

Code:

def recommend\_books\_by\_genre():

*# Take input for book names and genres*

    book\_names = input("Enter book names (comma separated): ").split(',')

    genres = input("Enter genres for each book (comma separated, in order): ").split(',')

*# Clean up whitespace*

    book\_names = [name.strip() *for* name *in* book\_names]

    genres = [genre.strip() *for* genre *in* genres]

*# Map books to genres*

    book\_genre\_map = {}

*for* book, genre *in* zip(book\_names, genres):

        book\_genre\_map[book] = genre

*# Ask user for preferred genre*

    preferred\_genre = input("Enter genre: ").strip()

*# Find and print books matching the preferred genre*

    recommended\_books = [book *for* book, genre *in* book\_genre\_map.items() *if* genre.lower() == preferred\_genre.lower()]

*if* recommended\_books:

        print("Recommended books:")

*for* book *in* recommended\_books:

            print(book)

*else*:

        print("No books found for the given genre.")

*# Example usage*

*if* \_\_name\_\_ == "\_\_main\_\_":

    recommend\_books\_by\_genre()

Output:

PS C:\Users\KARTHIK\OneDrive\Documents\Labtest-1> & C:/Users/KARTHIK/AppData/Local/Programs/Python/Python313/python.exe c:/Users/KARTHIK/OneDrive/Documents/Labtest-1/task2.py

Enter book names (comma separated): To kill mocking bird,A brief history of time,The selfish gene,1984

Enter genres for each book (comma separated, in order): Fiction,science,science fiction

Enter genre: fiction

Recommended books:

To kill mocking bird

1. (2 Marks) 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.ex: input: start=0,end=10 ,ouput : 1,3,5,7. ex: input:start=10,end=15,output:11,13.

Code:

def is\_prime(n):

    if n < 2:

        return False

    for i in range(2, int(n\*\*0.5)+1):

        if n % i == 0:

            return False

    return True

start = int(input("Enter start: "))

end = int(input("Enter end: "))

primes = []

for num in range(start, end+1):

    if is\_prime(num):

        primes.append(num)

print(",".join(str(p) for p in primes))

Output:

PS C:\Users\KARTHIK\OneDrive\Documents\Labtest-1> & C:/Users/KARTHIK/AppData/Local/Programs/Python/Python313/python.exe c:/Users/KARTHIK/OneDrive/Documents/Labtest-1/task3.py

Enter start: 0

Enter end: 20

2,3,5,7,11,13,17,19

1. (2 Marks) Write Python code that takes a list of student names and generates institutional email IDs in the format: <firstletter><lastname>@sru.edu.in Example: "Anita Sharma" → asharma@sru.edu.in. Use GitHub Copilot along with VS Code. Use few shot prompting.

Prompt:Write Python code that takes a list of student names and generates institutional

email IDs in the format: <firstletter><lastname>@sru.edu.in.Take input from the user.

Example: input:"Anita Sharma" output:asharma@sru.edu.in,

input: "Shiva Karthikeya" output: skarthikeya@sru.edu.in.

Code:

def generate\_email(name):

    parts = name.strip().split()

    if len(parts) < 2:

        return "Invalid name format"

    first\_letter = parts[0][0].lower()

    last\_name = parts[-1].lower()

    email = f"{first\_letter}{last\_name}@sru.edu.in"

    return email

student\_names = input("Enter student names separated by commas: ").split(',')

for name in student\_names:

    email = generate\_email(name)

    print(f"{name.strip()} -> {email}")

Output:

PS C:\Users\KARTHIK\OneDrive\Documents\Labtest-1> & C:/Users/KARTHIK/AppData/Local/Programs/Python/Python313/python.exe c:/Users/KARTHIK/OneDrive/Documents/Labtest-1/task4.py

Enter student names separated by commas: shiva karthikeya , sai charan ,sai vishal

shiva karthikeya -> skarthikeya@sru.edu.in

sai charan -> scharan@sru.edu.in

sai vishal -> svishal@sru.edu.in

**Date:** 2025-08-14

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