CODSOFT IT SERVICE

PYTHON PROGRAMMING INTERNSHIP

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TASK 1 : TO-DO LIST

task1.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task1.py (3.13.7)

File Edit Format Run Options Window Help

```
from datetime import datetime
class Task:
    def __init__(self, title):
        self.title = title
        self.completed = False
        self.created_at = datetime.now()
    def mark_done(self):
        self.completed = True
class TodoApp:
    def __init__(self):
        self.tasks = []
    def add_task(self):
        title = input("Enter task: ")
        self.tasks.append(Task(title))
        print(f"✔ '{title}' added successfully!")
    def view_tasks(self):
        if not self.tasks:
            print("No tasks found.")
            return
        print("\n--- Your Tasks ---")
        for i, task in enumerate(self.tasks, 1):
            status = "✔ Done" if task.completed else "❌ Pending"
            print(f"{i}. {task.title} | {status} | Added: {task.created_at.strftime('%d-%m %I:%M %p')}")
    def mark_done(self):
        self.view_tasks()
```

task1.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task1.py (3.13.7)

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```
    def mark_done(self):
        self.view_tasks()
        num = int(input("Task number to mark done: "))
        self.tasks[num - 1].mark_done()
        print("Task marked as done!")
    def delete_task(self):
        self.view_tasks()
        num = int(input("Task number to delete: "))
        deleted = self.tasks.pop(num - 1)
        print(f"Deleted task: {deleted.title}")
    def run(self):
        while True:
            print("\n======= TO-DO LIST APP =======")
            print("1. Add Task")
            print("2. View Tasks")
            print("3. Mark Task as Done")
            print("4. Delete Task")
            print("5. Exit")
            print("==============================")
            choice = input("Enter choice: ")
            if choice == '1': self.add_task()
            elif choice == '2': self.view_tasks()
            elif choice == '3': self.mark_done()
            elif choice == '4': self.delete_task()
            elif choice == '5':
```

task1.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task1.py (3.13.7)

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```
        self.view_tasks()
        num = int(input("Task number to delete: "))
        deleted = self.tasks.pop(num - 1)
        print(f"Deleted task: {deleted.title}")
    def run(self):
        while True:
            print("\n======= TO-DO LIST APP =======")
            print("1. Add Task")
            print("2. View Tasks")
            print("3. Mark Task as Done")
            print("4. Delete Task")
            print("5. Exit")
            print("==============================")
            choice = input("Enter choice: ")
            if choice == '1': self.add_task()
            elif choice == '2': self.view_tasks()
            elif choice == '3': self.mark_done()
            elif choice == '4': self.delete_task()
            elif choice == '5':
                print("Goodbye! 👋")
                break
            else:
                print("Invalid choice. Try again.")
TodoApp().run()
```

IDLE Shell 3.13.7

File Edit Shell Debug Options Window Help

```
Python 3.13.7 (tags/v3.13.7:bcee1c3, Aug 14 2025, 14:15:11) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
========== RESTART: C:/Users/aksha/OneDrive/codsoft internship tasks/task1.py ==========


======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
Enter choice: 1
Enter task: buy groceries
✔ 'buy groceries' added successfully!


======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
Enter choice: 1
Enter task: do homework
```

IDLE Shell 3.13.7

File Edit Shell Debug Options Window Help

```
==================================
Enter choice: 1
Enter task: do homework
✔ 'do homework' added successfully!


======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
Enter choice: 2


--- Your Tasks ---
1. buy groceries | ✘ Pending | Added: 11-12 11:17 AM
2. do homework | ✘ Pending | Added: 11-12 11:18 AM


======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
```

IDLE Shell 3.13.7

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```
Enter choice: 3


--- Your Tasks ---
1. buy groceries | ✗ Pending | Added: 11-12 11:17 AM
2. do homework | ✗ Pending | Added: 11-12 11:18 AM
Task number to mark done: 2
Task marked as done!


======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==============================
Enter choice: 2

--- Your Tasks ---
1. buy groceries | ✗ Pending | Added: 11-12 11:17 AM
2. do homework | ✔ Done | Added: 11-12 11:18 AM


======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
```

IDLE Shell 3.13.7

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```
======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
Enter choice: 4

--- Your Tasks ---
1. buy groceries | ✗ Pending | Added: 11-12 11:17 AM
2. do homework | ✔ Done | Added: 11-12 11:18 AM
Task number to delete: 1
Deleted task: buy groceries

======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
Enter choice: 2

--- Your Tasks ---
```

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```
Task number to delete: 1
Deleted task: buy groceries


======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
Enter choice: 2

--- Your Tasks ---
1. do homework | ✔ Done | Added: 11-12 11:18 AM

======= TO-DO LIST APP =======
1. Add Task
2. View Tasks
3. Mark Task as Done
4. Delete Task
5. Exit
==================================
Enter choice: 5
Goodbye! 👋
>>>
```

TASK 2 : CALCULATOR

task2.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task2.py (3.13.7)

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```
def calculate():
    print("\n------Calculator ------")
    try:
        a = float(input("Enter number 1: "))
        b = float(input("Enter number 2: "))
        op = input("Enter operation (+ - * /): ")
        operations = {
            '+': a + b,
            '-': a - b,
            '*': a * b,
            '/': "Infinity" if b == 0 else a / b
        }
        if op in operations:
            print("Result =", operations[op])
        else:
            print("Invalid operation.")
    except ValueError:
        print("Error: Please enter valid numbers.")
calculate()
```

IDLE Shell 3.13.7

File Edit Shell Debug Options Window Help

```
Python 3.13.7 (tags/v3.13.7:bcee1c3, Aug 14 2025, 14:15:11) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
========== RESTART: C:/Users/aksha/OneDrive/codsoft internship tasks/task2.py ==========


------Calculator ------
Enter number 1: 50
Enter number 2: 5
Enter operation (+ - * /): /
Result = 10.0
>>>
```

TASK 3 : PASSWORD GENERATOR

task3.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task3.py (3.13.7)

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```
import random
import string
def password_strength(pwd):
    if len(pwd) >= 12:
        return "Strong Password"
    elif len(pwd) >= 8:
        return "Medium Password"
    else:
        return "Weak Password"
print("\n------PASSWORD GENERATOR------")
length = int(input("Enter password length: "))
characters = string.ascii_letters + string.digits + string.punctuation
password = "".join(random.choice(characters) for _ in range(length))
print("\nGenerated Password:", password)
print("Strength:", password_strength(password))
```

IDLE Shell 3.13.7

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```
>>>
====== RESTART: C:/Users/aksha/OneDrive/codsoft internship tasks/task3.py ======

------PASSWORD GENERATOR------
Enter password length: 4

Generated Password: ^sqy
Strength: Weak Password
>>>
====== RESTART: C:/Users/aksha/OneDrive/codsoft internship tasks/task3.py ======

------PASSWORD GENERATOR------
Enter password length: 8

Generated Password: tFRqq:Np
Strength: Medium Password
>>>
====== RESTART: C:/Users/aksha/OneDrive/codsoft internship tasks/task3.py ======

------PASSWORD GENERATOR------
Enter password length: 12

Generated Password: e.w+^YBZqH\c
Strength: Strong Password
>>>
```

TASK 4 : ROCK-PAPER-SCISSORS GAME

task4.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task4.py (3.13.7)

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```
import random
choices = ["rock", "paper", "scissors"]
score_user, score_comp = 0, 0
print("\nWelcome to RPS Game!")
while True:
    user = input("\nChoose (rock/paper/scissors or exit): ").lower()
    if user == "exit":
        print("\nGame Over!")
        print(f"Final Score → You: {score_user} | Computer: {score_comp}")
        if score_user > score_comp:
            print("Final Winner: YOU! the Champion! ")
        elif score_comp > score_user:
            print("Final Winner: Computer! Better luck next time ")
        else:
            print("Final Result: It's a TIE!")
        break
    computer = random.choice(choices)
    print(f"You chose: {user}")
    print(f"Computer chose: {computer}")
    if user == computer:
        print(" It's a tie!")
    elif (user == "rock" and computer == "scissors") or \
         (user == "paper" and computer == "rock") or \
         (user == "scissors" and computer == "paper"):
        print("You win this round!")
```

task4.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task4.py (3.13.7)

File Edit Format Run Options Window Help

```
    if user == "exit":
        print("\nGame Over!")
        print(f"Final Score → You: {score_user} | Computer: {score_comp}")
        if score_user > score_comp:
            print("Final Winner: YOU! the Champion! ")
        elif score_comp > score_user:
            print("Final Winner: Computer! Better luck next time ")
        else:
            print("Final Result: It's a TIE!")
        break
    computer = random.choice(choices)
    print(f"You chose: {user}")
    print(f"Computer chose: {computer}")
    if user == computer:
        print(" It's a tie!")
    elif (user == "rock" and computer == "scissors") or \
         (user == "paper" and computer == "rock") or \
         (user == "scissors" and computer == "paper"):
        print("You win this round!")
        score_user += 1
    else:
        print("Computer wins this round!")
        score_comp += 1
    print(f"Score → You: {score_user} | Computer: {score_comp}")
```

IDLE Shell 3.13.7

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```
Welcome to RPS Game!

Choose (rock/paper/scissors or exit): scissors
You chose: scissors
Computer chose: paper
You win this round!
Score → You: 1 | Computer: 0

Choose (rock/paper/scissors or exit): rock
You chose: rock
Computer chose: paper
Computer wins this round!
Score → You: 1 | Computer: 1

Choose (rock/paper/scissors or exit): paper
You chose: paper
Computer chose: rock
You win this round!
Score → You: 2 | Computer: 1

Choose (rock/paper/scissors or exit): exit

Game Over!
Final Score → You: 2 | Computer: 1
Final Winner: YOU! the Champion!
```

TASK 5 : CONTACT BOOK

task5.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task5.py (3.13.7)

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```
class Contact:
    def __init__(self, name, phone, email, address):
        self.name = name
        self.phone = phone
        self.email = email
        self.address = address
class ContactBook:
    def __init__(self):
        self.contacts = []
    def add(self):
        print("\nAdd New Contact")
        c = Contact(
            input("Name: "),
            input("Phone: "),
            input("Email: "),
            input("Address: ")
        )
        self.contacts.append(c)
        print("Contact added!")
    def view(self):
        if not self.contacts:
            print("No contacts!")
            return
        print("\n--- Your Contacts ---")
        for i, c in enumerate(self.contacts, 1):
```

task5.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task5.py (3.13.7)

File Edit Format Run Options Window Help

```
    for i, c in enumerate(self.contacts, 1):
        print(f"{i}. Name : {c.name} | Phone : {c.phone} |Email : {c.email} |Address : {c.address}")
def search(self):
    name = input("Search Name: ").lower()
    for c in self.contacts:
        if c.name.lower() == name:
            print("Found:")
            print("Name:", c.name)
            print("Phone:",c.phone)
            print("Email:", c.email)
            print("Address:", c.address)
            return
    print("No contact found.")
def delete(self):
    self.view()
    num = int(input("Enter contact number to delete: "))
    self.contacts.pop(num - 1)
    print("Deleted!")
def run(self):
    while True:
        print("\n===== CONTACT BOOK =====")
        print("1. Add")
        print("2. View")
        print("3. Search")
        print("4. Delete")
```

task5.py - C:/Users/aksha/OneDrive/codsoft internship tasks/task5.py (3.13.7)

File Edit Format Run Options Window Help

```
        print("No contact found.")
    def delete(self):
        self.view()
        num = int(input("Enter contact number to delete: "))
        self.contacts.pop(num - 1)
        print("Deleted!")
    def run(self):
        while True:
            print("\n===== CONTACT BOOK =====")
            print("1. Add")
            print("2. View")
            print("3. Search")
            print("4. Delete")
            print("5. Exit")
            choice = input("Choice: ")
            if choice == '1': self.add()
            elif choice == '2': self.view()
            elif choice == '3': self.search()
            elif choice == '4': self.delete()
            elif choice == '5':
                print("Bye!")
                break
            else:
                print("Invalid choice.")
ContactBook().run()
```

IDLE Shell 3.13.7

File Edit Shell Debug Options Window Help

```
===== CONTACT BOOK =====
1. Add
2. View
3. Search
4. Delete
5. Exit
Choice: 1

Add New Contact
Name: akshaya
Phone: 1234567890
Email: akshaya@gmail.com
Address: chennai
Contact added!

===== CONTACT BOOK =====
1. Add
2. View
3. Search
4. Delete
5. Exit
Choice: 1

Add New Contact
Name: malathi
```

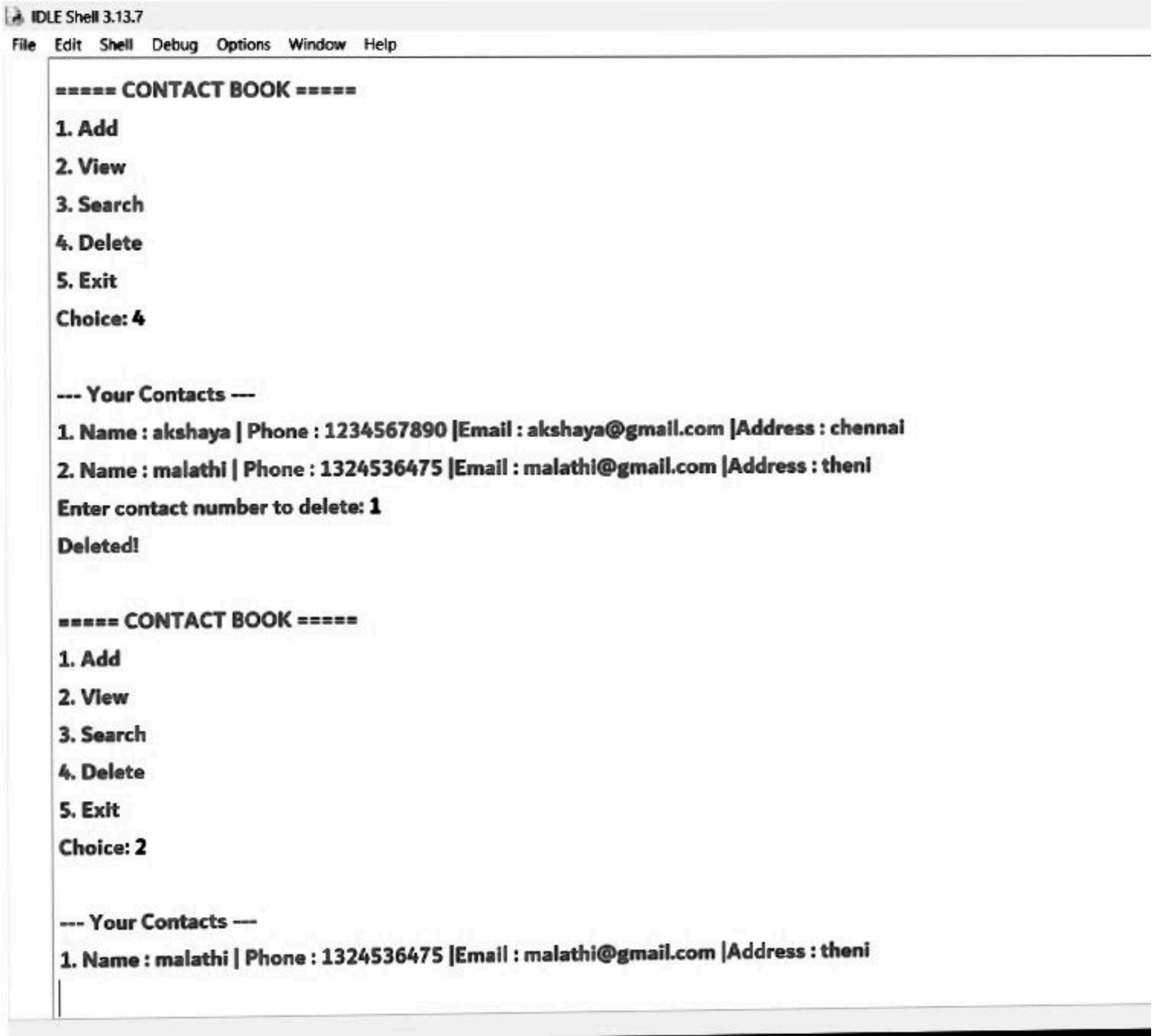
IDLE Shell 3.13.7

File Edit Shell Debug Options Window Help

```
Add New Contact
Name: malathi
Phone: 1324536475
Email: malathi@gmail.com
Address: theni
Contact added!

===== CONTACT BOOK =====
1. Add
2. View
3. Search
4. Delete
5. Exit
Choice: 3
Search Name: malathi
Found:
Name: malathi
Phone: 1324536475
Email: malathi@gmail.com
Address: theni

===== CONTACT BOOK =====
1. Add
2. View
```


IDLE Shell 3.13.7
File Edit Shell Debug Options Window Help
===== CONTACT BOOK =====
1. Add
2. View
3. Search
4. Delete
5. Exit
Choice: 4
--- Your Contacts ---
1. Name : akshaya | Phone : 1234567890 |Email : akshaya@gmail.com |Address : chennai
2. Name : malathi | Phone : 1324536475 |Email : malathi@gmail.com |Address : theni
Enter contact number to delete: 1
Deleted!
===== CONTACT BOOK =====
1. Add
2. View
3. Search
4. Delete
5. Exit
Choice: 2
--- Your Contacts ---
1. Name : malathi | Phone : 1324536475 |Email : malathi@gmail.com |Address : theni


IDLE Shell 3.13.7
File Edit Shell Debug Options Window Help
1. Name : akshaya | Phone : 1234567890 |Email : akshaya@gmail.com |Address : chennai
2. Name : malathi | Phone : 1324536475 |Email : malathi@gmail.com |Address : theni
Enter contact number to delete: 1
Deleted!
===== CONTACT BOOK =====
1. Add
2. View
3. Search
4. Delete
5. Exit
Choice: 2
--- Your Contacts ---
1. Name : malathi | Phone : 1324536475 |Email : malathi@gmail.com |Address : theni
===== CONTACT BOOK =====
1. Add
2. View
3. Search
4. Delete
5. Exit
Choice: 5
Bye!
>>>

THE END