**Domain : Python Developer**

Basic Task :

Calculator: Create a basic calculator that performs operations like addition, subtraction, multiplication, and division

Answer :

def add(x, y):

return x + y

def subtract(x, y):

return x - y

def multiply(x, y):

return x \* y

def divide(x, y):

if y == 0:

return "Cannot divide by zero"

return x / y

while True:

print("Options:")

print("Enter 'add' for addition")

print("Enter 'subtract' for subtraction")

print("Enter 'multiply' for multiplication")

print("Enter 'divide' for division")

print("Enter 'exit' to end the program")

user input = input(": ")

if user input == "exit":

break

if user input in ("add", "subtract", "multiply", "divide"):

num1 = float(input("Enter first number: "))

num2 = float(input("Enter second number: "))

if user input == "add":

print("Result:", add(num1, num2))

elif user input == "subtract":

print("Result:", subtract(num1, num2))

elif user input == "multiply":

print("Result:", multiply(num1, num2))

elif user input == "divide":

print("Result:", divide(num1, num2))

else:

print("Invalid input")

Intermediate Task :

Chatbot: Build a chatbot that can respond to user queries and perform tasks.

Answer :

import nltk

from nltk.chat.util import Chat, reflections

nltk.download('punkt')

pairs = [

[

r"(hello| hi| hey| howdy| hello| greetings)",

["Hello!", "Hi there!", "How can I help you today?"]

],

[

r"(what is your name| who are you)",

["I'm a basic chatbot.", "I go by ChatGPT.", "You can call me Chatbot."]

],

[

r"(how are you| how's it going| how are you doing)",

["I'm just a computer program, so I don't have feelings, but I'm here to assist you."]

],

[

r"(what can you do| what are your capabilities)",

["I can answer your questions and provide information. Just ask me anything!"]

],

[

r"(bye| goodbye| see you later| cya)",

["Goodbye!", "Have a great day!"]

],

# Add more patterns and responses as needed

]

chatbot = Chat(pairs, reflections)

print("Hello! I'm your chatbot. You can start a conversation or ask questions. Type 'bye' to exit.")

while True:

user input = input("You: ")

if user input. lower() == 'bye':

print("Chatbot: Goodbye!")

break

else:

response = chatbot. respond(user input)

print("Chatbot:", response)