SIMPLE CALCULATOR

Title:

This project involves the development of a simple calculator using python. The calculator will be capable of performing basic arithmetic operations, including addition, subtraction, multiplication, and division.

ABSTRACT

The simple calculator is a system software which allows us to perform simple mathematical calculator operations such as addition, subtraction, multiplication, division etc. To develop this system we have used the concept of class and object , first we defined the class calculator and defined the various functions inside this class for various mathematical operations and each function is different from each other. After that we prompted user to provide the input for 2 numbers. And at the end of the program we have created the object of calculator class and called all the function defined inside the class one after one for different tasks as per their respective operations. The program interacts with the user via text prompts and outputs the results based on the selected operation.

INTRODUCTION

Python is a widely used general-purpose ,high level programming language. It was created by GUIDO VAN ROSSUM in 1991 and further developed by the python software foundation. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer lines of code. Python is a programming language that lets you work quickly and integrate systems more efficiently.

A class is a code template for creating objects. Objects have member variables and have behavior associated with them. In python, a class is created by the keyword class. An object is created using the constructor of the class. This object will then be called the instance of the class.

In python, we create instances in the following manner

Instance = class(arguments)

A class by itself is of no use unless there is some functionality associated with it. Functionalities are defined by setting attributes , which act as containers for data and functions related to those attributes. Those functions are called methods.

Attributes:

A class by itself is of no use unless there is some functionality associated with it. Functionalities are defined by setting attributes, which act as containers for data and functions related to those attributes. Those functions are called as methods.

You can define the following class with the name snake. This class will have an attribute name

>>>>class snake:

… name = “ Python’’ # set an attribute ‘name’ of the class

A function object is created with the def statement. Primarily, we want to evaluate the function objects we create. However , because a function is an object, it has attributes, and it can be manipulated to a limited extent.

From a syntax point of view, a name followed by ()’s is a function call. You can think of the ()’s as the call operator. They require evaluation of the arguments, then they apply the function.

Name ( arguments ) :

When we use a function name without ()’s , we are talking about the function object. There are a number of manipulations that you might want to do with a function object.

Call The Function:

The most common use for a function objects to call it. When we follow a function name with ()’s, we are calling the function: evaluating the arguments , and applying the functions. Calling the function is the most common manipulation.

Alias The Function:

This is dangerous , because it can make a program obscure. However,it can also simplify the evaluation and enhancement of software. Imagine that the first version of our program had two functions named rollDie and rollDice.

By using the above concept, we have developed the simple calculator system we have developed this system by using the concept of class and object. First we defined the class calculator and defined various functions inside this class for various mathematical operations and each function is different from each other. After that we prompted user to provide the input for two numbers. And at the end of the program we have created the object of the calculator class and called all the function defined inside the class one after one for different as per their respective operations.

IMPLEMENTATION

Class Calculator

def addition(self):

print(a+b)

def substraction(self):

print(a-b)

def multiplication(self):

print(a \* b)

def division(self)

print(a / b)

a = int(input(“Enter the first number:”))

b = int(input(“Enter the first number:”))

obj = Calculator()

choice = 1 while

choice ! = 0:

print(“1. ADDITION”)

print(“2.SUBSTRACTION”)

print(“3.MULTIPLICATION”)

print(“4.DIVISION”)

choice = int(input(“Enter your choice:”))

choice == 1 :

print(obj.addition())

elif

choice == 2 :

print(obj.substraction())

elif

choice == 3 :

print(obj.multiplication())

elif

choice == 4 :

print(obj.division())

else :

print(“Invalid choice:”)

OUTPUT

Enter first number: 4

Enter second number: 9

1. ADDITION
2. SUBSTRACTION
3. MULTIPLICATION
4. DIVISION

Enter your choice : 1

ADDITION = 13

1. ADDITION
2. SUBSTRACTION
3. MULTIPLICATION
4. DIVISION

Enter your choice : 2

SUBSTRACTION = -5

1. ADDITION
2. SUBSTRACTION
3. MULTIPLICATION
4. DIVISION

Enter your choice : 3

MULTIPLICATION = 36

1. ADDITION
2. SUBSTRACTION
3. MULTIPLICATION
4. DIVISION

Enter your choice : 4 DIVISION:0.444444

CONCLUSION

We have concluded that we have successfully developed a simple calculator system which performs the various mathematical operations. We have used the concept of class and object to implement this system and perform a lot of customization so that teachers don’t need to change anything. We have provided the four functions and each function is responsible for their respective tasks. This project sshelps to all the user to perform the mathematical operations very easily.

REFERENCES:

Books:

1. Python crash course
2. Head first python
3. A byte of python

Websites:

https://www.w3schools.com/python/