Department of Computer Science and Engineering
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Lecture Notes
Python for Computational Problem Solving
UE23CS151A

Lecture #14
Input function

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Input() in Python

This function is used to **read a string from the user**. It returns a value as a string, which must be stored in a variable for future use.

```
C:\Users\Dell>python
Python 3.11.3 (tags/v3.11.3:f3909b8, Apr  4 2023, 23:49:59) [MSC v.1934 64 bit (AMD64)] on v
Type "help", "copyright", "credits" or "license" for more information.
>>> help(input)
Help on built-in function input in module builtins:

input(prompt='', /)
    Read a string from standard input.  The trailing newline is stripped.

    The prompt string, if given, is printed to standard output without a
    trailing newline before reading input.

    If the user hits EOF (*nix: Ctrl-D, Windows: Ctrl-Z+Return), raise EOFError.
    On *nix systems, readline is used if available.

>>> ■
```

Note: In python 3.x and above, value returned by input() is a string.

Input function can be used to **display the message to the user** using the prompt field and then **displays the cursor to the user to take some input from the user**.

```
>>> name = input("enter your name")
enter your namesindhu r pai
>>> name
'sindhu r pai'
>>> ■
```

Type conversion functions must be used if required**.**

```
Python 3.11.3 (tags/v3.11.3:f3909b8, Apr  4 2023, 23:49:59) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> a = input("enter the number")
enter the number78
>>> type(a)
<class 'str'>
>>> a = int(input("enter the number"))
enter the number78
>>> type(a)
<class 'int'>
>>> a
78
```

Program 1:

Write a program to read length and breadth of a rectangle and find the perimeter of it.

Solution Version - 1:

```
length = input()
breadth  = input()
print(length+breadth+length+breadth)
```

```
C:\Users\Dell>python practice.py
5
4
5454
```

The above code just did the concatenation of two strings entered by the user. Few problems with the code are as follows:

- Type conversions not done for any string entered by the user.
- User doesn't get any prompt message to enter the number.

Now, we will add all these program elements in version 2 solution.

Solution Version -2:

```
length = int(input("Enter the length of the rectangle"))
breadth = int(input("Enter the breadth of the rectangle"))
print(length+breadth+length+breadth)
```

```
C:\Users\Dell>python practice.py
Enter the length of the rectangle5
Enter the breadth of the rectangle4
18
```

If the user input is known, then we can use int(), float(), complex() etc. to convert the entered string to specific type. But if the user input is unknown, which function helps me in this conversion?

Here comes the usage of eval function .

```
>>> a = eval(input("enter the number"))
enter the number67
>>> type(a)
<class 'int'>
>>> a = eval(input("enter the number"))
enter the number89.3
>>> type(a)
<class 'float'>
>>> a = eval(input("enter the number"))
enter the number5+7j
>>> type(a)
<class 'complex'>
```

The eval() is a built-in- function used in **python which parses the string and evaluates the string like a python expression. Think about the output of** print(eval("2+4-1")).

Note: If user-supplied input is directly passed into eval(), it can lead to code injection vulnerabilities. Better to avoid the usage of this function.

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