9. PYTHON – INPUT AND OUTPUT

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9. Input and Output

1. Input and output

- ✓ Input represents data given to the program.
- ✓ Output represents the result of the program.

2. Hard coding

- ✓ Till now we have executed examples by hard coding values to variables
- ✓ In this chapter we will learn how to take values at run time.

Program Name	Hard coding the values demo1.py
	age = 16 print(age)
output	
	16

- ✓ Based on requirement we can take values at runtime or dynamically as well.

```
Please enter the age: 16
Entered value is: 16
```

3. input(p) function

- ✓ input(p) is a predefined function.
- ✓ This function accepts input from the keyboard.
- ✓ This function takes a value from keyboard and returns it as a string type.
- ✓ Based on requirement we can convert from string to other types.

Program Name	Printing name by taking value at run time demo2.py
	name = input("Enter the name:") print("You entered name as:", name)
Run	py demo2.py
Output	Enter the name: Daniel You entered name as: Daniel

Program Name	Printing name and age by taking value at run time demo3.py
	name = input("Enter the name: ") age = input("Enter the age: ") print("You entered name as: ", name) print("You entered age as: ", age)
Run	py demo3.py
Output	Enter the name: Prasad Enter the age: 16

```
You entered name as: Prasad
You entered age as: 16
```

Program Name	Checking return type value for input() function demo4.py value = input("Enter the value ") print("Entered value as: ", value) print("type is: ", type(value))
Run	py demo4.py
Output	Enter the value: Daniel Entered value as: Daniel type is: <class 'str'>
Run	py demo4.py
Output	Enter the value:123 Entered value as: 123 type is: <class 'str'>
Run	py demo4.py
Output	Enter the value:123.456 Entered value as: 123.456 type is: <class 'str'>

4. Convert from string to int

- ✓ We can convert the string value into int value.
- ✓ int(p) is a predefined function
- ✓ This function converts to int data type.

Program Name: Converting from string to int data type

demo5.py

```
a = "123"
print(a)
print(type(a))

b = int(a)
print(b)
print(type(b))
```

Output

```
123
<class 'str'>
123
<class 'int'>
```

Program Name: Converting from string to int data type
demo7.py

```
a = input("Enter a value:")
print("Your value is:", a)
print("data type is:", type(a))

b = int(a)
print("After converting the value is:", b)
print("data type is:", type(b))
```

Run: py demo5.py

Output

```
Enter a value:123
Your value is: 123
data type is: <class 'str'>
After converting the value is: 123
data type is: <class 'int'>
```

5. Convert from string type to other type

- ✓ We can convert the string value into float value.
- ✓ float(p) is a predefined function
- ✓ This function converts to float data type.

Program Name: Converting from string to float data type

demo8.py

```
a = "123.99"
print(a)
print(type(a))

b = float(a)
print(b)
print(type(b))
```

Output

```
123.99
<class 'str'>
123.99
<class 'float'>
```

Program Name: Converting from string to float data type
demo9.py

```
a = input("Enter a value:")
print("Your value is:", a)
print("data type is:", type(a))

b = float(a)
print("After converting the value is:", b)
print("data type is:", type(b))
```

Run

```
py demo9.py
```

Output

```
Enter a value:123.99
Your value is: 123.99
data type is: <class 'str'>
After converting the value is: 123.99
data type is: <class 'float'>
```

6. Convert float data type value into int data type

- ✓ int(p) is predefined function in python.
- ✓ This function converts value into int data type

Program Name: Converting from float to int data type
demo10.py

```
a = 10000.45
print(a)
print(type(a))

b = int(a)
print(b)
print(type(b))
```

Output

```
10000.45
<class 'float'>
10000
<class 'int'>
```

Program Name: + operator concatenates/joins two string values
demo11.py

```
p1 = input("Enter First product price:")
p2 = input("Enter Second product price:")


print("Total price is:", p1+p2)
```

Run

```
py demo11.py
```

Output

```
Enter First product price:111
Enter Second product price:222
Total price is: 111222
```

Program Name: Converting string to int and perform + operator
demo12.py

```
p1 = input("Enter First product price:")
p2 = input("Enter Second product price:")

a = int(p1)
b = int(p2)

print("Total price is:", a+b)
```

Run

```
py demo12.py
```

Output

```
Enter First product price:111
Enter Second product price:222
Total price is: 333
```

7. List out few type conversion functions in python

1. int(p) – converts other data type into integer type
2. float(p) – converts other data type into float type
3. str(p) – converts other data type into a string.
4. bool(p) – converts other data type into boolean type
5. list(p) – converts sequence to list
6. tuple(p) – converts sequence to a tuple.
7. set(p) – converts sequence to set.
8. dict(p) – converts a tuple of order (key, value) into a dictionary.