Python Programming

Introduction

Program:

Sequence of steps given as instructions to perform a specific computation.

Debugging:

Tracking the errors in the program written and resolving them is debugging.

Interpreter language:

The program is interpreted directly without compiling the program.

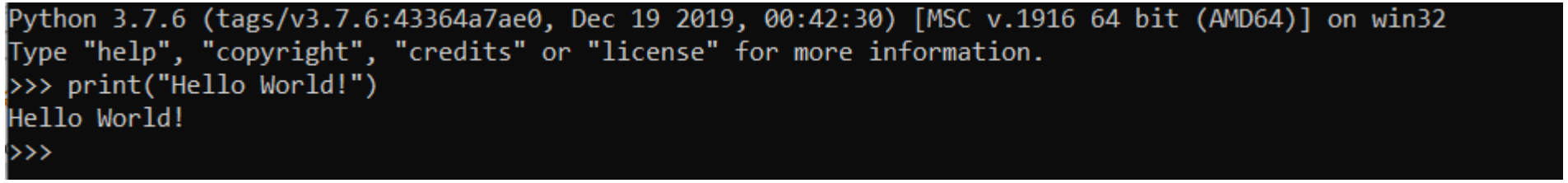
Example: Python & PHP

First Python Program

Installation process:

- In your web browser and navigate to the Downloads for Windows section of the official Python website.
- Download either the **Windows x86-64 executable installer** or

  Windows x86 executable installer
- Run the Executable Installer
- Test it:



```python
# This is the single line comments
"""Multiline comments in python
Here we will see all the arithematic operators"""
a=10
b=2
sum=a+b       # Addition
diff=a-b      # Subtraction
mul=a*b       # Multiply
div=a/b       # Division and the quotient will be floating values
div2=a//b     # Division again but the quotient will be int(floor division)
mod=a%b       # Modulus
exp=a ** b    # Exponent
""" Now lets print all for them,
Please see the difference between two division performed"""
print("sum =", sum)
print("difference =",diff)
print("multiplication =",mul)
print("division_float =",div)
print("division_int =",div2)
print("modulus =",mod)
print("exponent =",exp)
```

```
sum = 12
difference = 8
multiplication = 20
division_float = 5.0
division_int = 5
modulus = 0
exponent = 100
```

Important intro notes

- Comments
  - Single-Line
  - Multi-Line

- Variable declaration
- Arithmetic Operators

```python
print("-----------------------String---------------------------------")
# Strings with keyboard input
s= "Hello "
yourname=input("Enter your name:")
print(s + yourname)
print("-----------------Type Conversion-------------------------------")
a=2
# Know the type
print("a =",a)
print("Datatype of variable-a is:",type(a))
print("------------------Boolean Variable----------------------------")
# Type Conversion
print("Convert to float", float(a))
t=1 # declare true variable
f=0 # declare false variable
print("**Lets see boolean datatype**")
print("Boolean Equivalent for t:",bool(t))
print("Boolean equivalent for the expression(1==0):",1==0)
```

```
-----------------------String---------------------------------

Enter your name:Kiran
Hello Kiran
-----------------Type Conversion-------------------------------
a = 2
Datatype of variable-a is: <class 'int'>
------------------Boolean Variable----------------------------
Convert to float 2.0
**Lets see boolean datatype**
Boolean Equivalent for t: True
Boolean equivalent for the expression(1==0): False
```

Important intro points

- Strings
- Input from Keyboard
- Type Conversion
- Boolean Variables

```
print("---------------Logical Variables--------------")
a = 4
b = 2
print("a anding with b:",(a and b))  # and operator
print("a oring with b:",(a or b))    # or operator
print("Not of b:",not( a and b))     # not operator

print("---------------Formatting the output--------------")

a = 4
b = 3
print("a divided by b:",(a/b))
"""Lets format the output try to truncate the floating values
 Here %3.2f means format the output with total 3 values with 2 values after decimal """
print("a divided by b again to format:%3.2f" %(a/b))

```

```
---------------Logical Variables---------
a anding with b: 2
a oring with b: 4
Not of b: False
---------------Formatting the output-----
a divided by b: 1.3333333333333333
a divided by b again to format:1.33
```

Important intro points

- Logical Variables
- Formatting Output

End of Introduction-Theory

Exercise Questions

1. Area and Circumference of a Circle
2. Print Ascii Value of the Character and vice-versa
3. Area of Triangle, Square, Rectangle
4. Simple Interest
5. Gross Salary of an Employee
6. Percentage of 5 Subjects
7. The Display Size of the Different Data Type
8. Write programs to evaluate each of the following equations.

   (i) $V = u + at$. (ii) $S = ut+1/2a$

   (iii) $T=2*a+\sqrt{b}+9c$ (iv) $H = \sqrt{b^2 + p^2}$
9. Converting Temperature Celsius into Fahrenheit and vice-versa
10. Read Integer (N) and Print the First Three Powers (N^1, N^2, N^3)

Source: https://www.programmingwithbasics.com/p/list-c-language-programs.html

For Solutions