**Assignment for**

**Introduction to Python**

**AIA**

**(Abzooba Innovation Academy)**



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## Development Environments

**Exercise:**

**Q1.**

What are the commands to create, change, list environments that have different versions of Python.

**Ans1**

In order to manage environments, we need to create at least two so you can move or switch between them.

To **create a new environment**, use the conda create command, followed by any name you wish to call it:

conda create --name snowflakes biopython

When conda asks you

proceed ([y]/n)?

Type “y” for “yes.”

This will create a new environment named /envs/snowflakes that contains the program Biopython. This environment will use the same version of Python that you are currently using, because you did not specify a version.

To **change environments:**

**Linux, OS X:** source activate snowflakes

**Windows:** activate snowflakes

To see a **list of all environments**, use the conda environment list command as follows:

conda env list

**Q2.**

Write a Python program to get the Python version you are using.

**Ans1**

import sys

print sys.version\_info

**Ans2**

import platform

print platform.python\_version()

## Data Structures

**Exercise:**

**Q1.**

Write a Python program which accepts a sequence of comma-separated numbers from user and generate a list and a tuple with those numbers.

**Ans 1.**

values = input("Input some comma separated numbers : ")

list = list(values)

tuple = tuple(list)

print('List : ',list)

print('Tuple : ',tuple)

**Q2.**

Write a Python program to display the first and last colors from the following list.

**Ans 2.**

color\_list = ["Red","Green","White" ,"Black"]

print "%s %s"%(color\_list[0],color\_list[-1])

## Functions

**Exercise:**

**Q1.**

Write a function in Python program which finds whether a given number (accept from the user) is even or odd, print out an appropriate message to the user.

**Ans1**

def checkNumber(num):

mod = num % 2

if mod > 0:

print("This is an odd number.")

else:

print("This is an even number.")

num = int(input("Enter a number: "))

checkNumber(num)

## Classes

**Exercise:**

**Q1.**

Write a Python class to implement pow(x, n).

**Ans1**

class py\_solution:

def pow(self, x, n):

if x==0 or x==1 or n==1:

return x

if x==-1:

if n%2 ==0:

return 1

else:

return -1

if n==0:

return 1

if n<0:

return 1/self.pow(x,-n)

val = self.pow(x,n//2)

if n%2 ==0:

return val\*val

return val\*val\*x

print(py\_solution().pow(2, -3));

print(py\_solution().pow(3, 5));

print(py\_solution().pow(100, 0));