**Logic Programming**

## **Encode the following facts and rules in pyDatalog:**

##  Bear is big

##  Elephant is big[¶](http://localhost:8888/notebooks/Downloads/New folder/pyDataLog (1).ipynb" \l "%EF%82%B7-Elephant-is-big)

##  Cat is small

##  Bear is brown

##  Cat is black

##  Elephant is gray

##  An animal is dark if it is black

##  An animal is dark if it is brown

## Write a query to find which animal is dark and big.

## **Write a recursive program to find factorial of a number using pyDatalog.**

## **Implement using pyDatalog:**

## Assume given a set of facts of the form father(name1,name2) (name1 is the father

## of name2).

## a. Define a predicate brother(X,Y) which holds iff X and Y are brothers.

## b. Define a predicate cousin(X,Y) which holds iff X and Y are cousins.

## c. Define a predicate grandson(X,Y) which holds iff X is a grandson of Y.

## d. Define a predicate descendent(X,Y) which holds iff X is a descendent of Y.

## e. Consider the following genealogical tree:

## a

## / \

## b c

## / \ |

## d e f

## What are the answers generated by your definitions for the queries:

1. **Write a program to check prime numbers in python logic programming.**