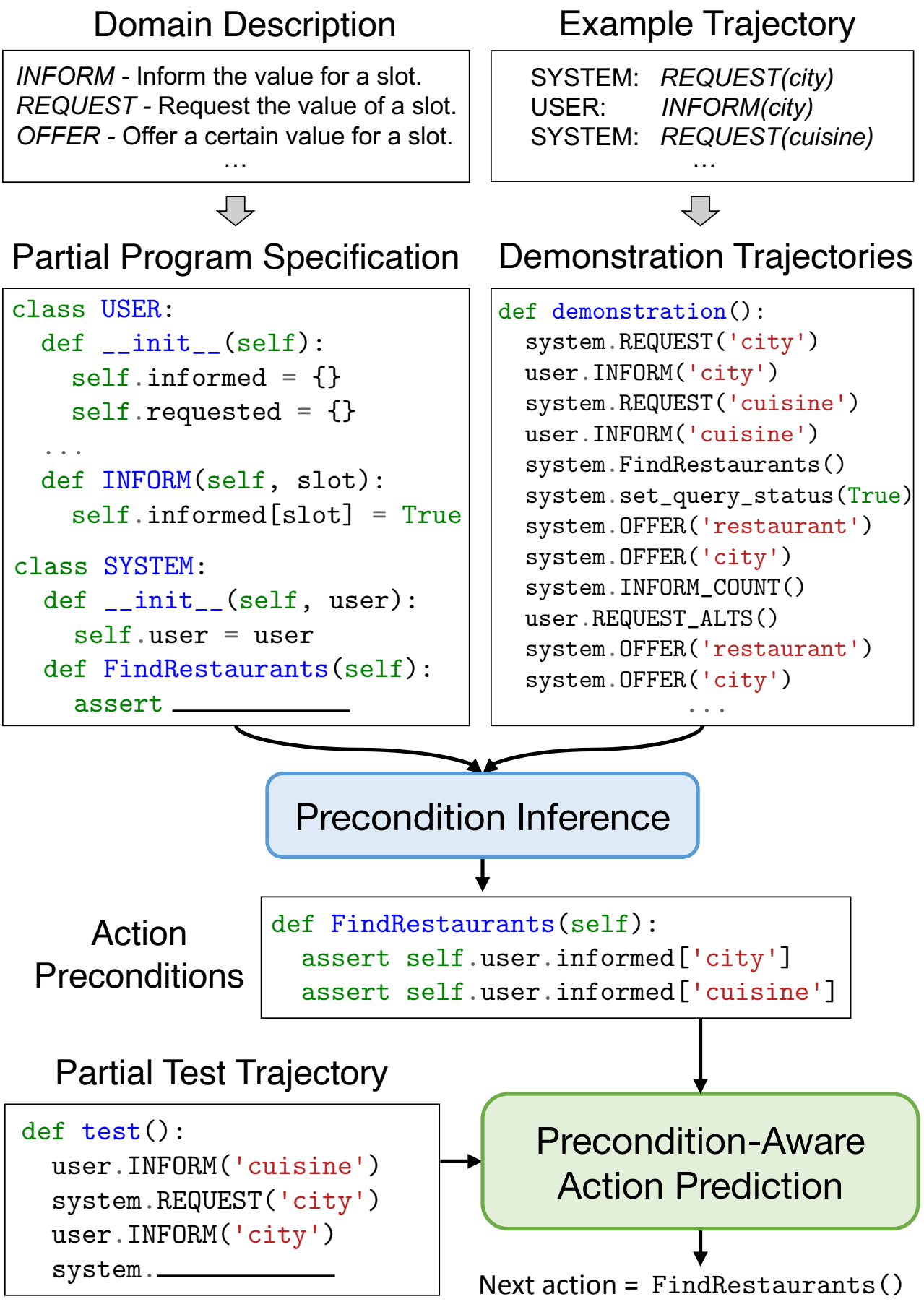

Domain Description
INFORM - Inform the value for a slot.
REQUEST - Request the value of a slot.
OFFER - Offer a certain value for a slot.
...
Example Trajectory
SYSTEM: REQUEST(city)
USER: INFORM(city)
SYSTEM: REQUEST(cuisine)
...
Partial Program Specification
class USER:
def __init__(self):
self.informed = {}
self.requested = {}
...
def INFORM(self, slot):
self.informed[slot] = True
class SYSTEM:
def __init__(self, user):
self.user = user
def FindRestaurants(self):
assert _____
Demonstration Trajectories
def demonstration():
system.REQUEST('city')
user.INFORM('city')
system.REQUEST('cuisine')
user.INFORM('cuisine')
system.FindRestaurants()
system.set_query_status(True)
system.OFFER('restaurant')
system.OFFER('city')
system.INFORM_COUNT()
user.REQUEST_ALTS()
system.OFFER('restaurant')
system.OFFER('city')
...
Precondition Inference
Action Preconditions
def FindRestaurants(self):
assert self.user.informed['city']
assert self.user.informed['cuisine']
Partial Test Trajectory
def test():
user.INFORM('cuisine')
system.REQUEST('city')
user.INFORM('city')
system._____
Precondition-Aware Action Prediction
Next action = FindRestaurants()