Assignment 1

Question 1 (Results)

Transition Probability Table

Current State	Action	Next State	Probability
Hostel	Attend class	Hostel	0.50
Hostel	Attend class	Academic Building	0.50
Hostel	Eat food	Canteen	1.00
Academic Building	Attend class	Academic Building	0.70
Academic Building	Attend class	Canteen	0.30
Academic Building	Eat food	Academic Building	0.20
Academic Building	Eat food	Canteen	0.80
Canteen	Attend class	Academic Building	0.60
Canteen	Attend class	Hostel	0.30
Canteen	Attend class	Canteen	0.10
Canteen	Eat food	Canteen	1.00

For gamma = 0

Value Iteration Results:

Values:
Value for Hostel: -1.00
Value for AB: 3.00
Value for Canteen: 1.00

Policy:

Best action for Hostel: Class
Best action for AB: Class
Best action for Canteen: Class

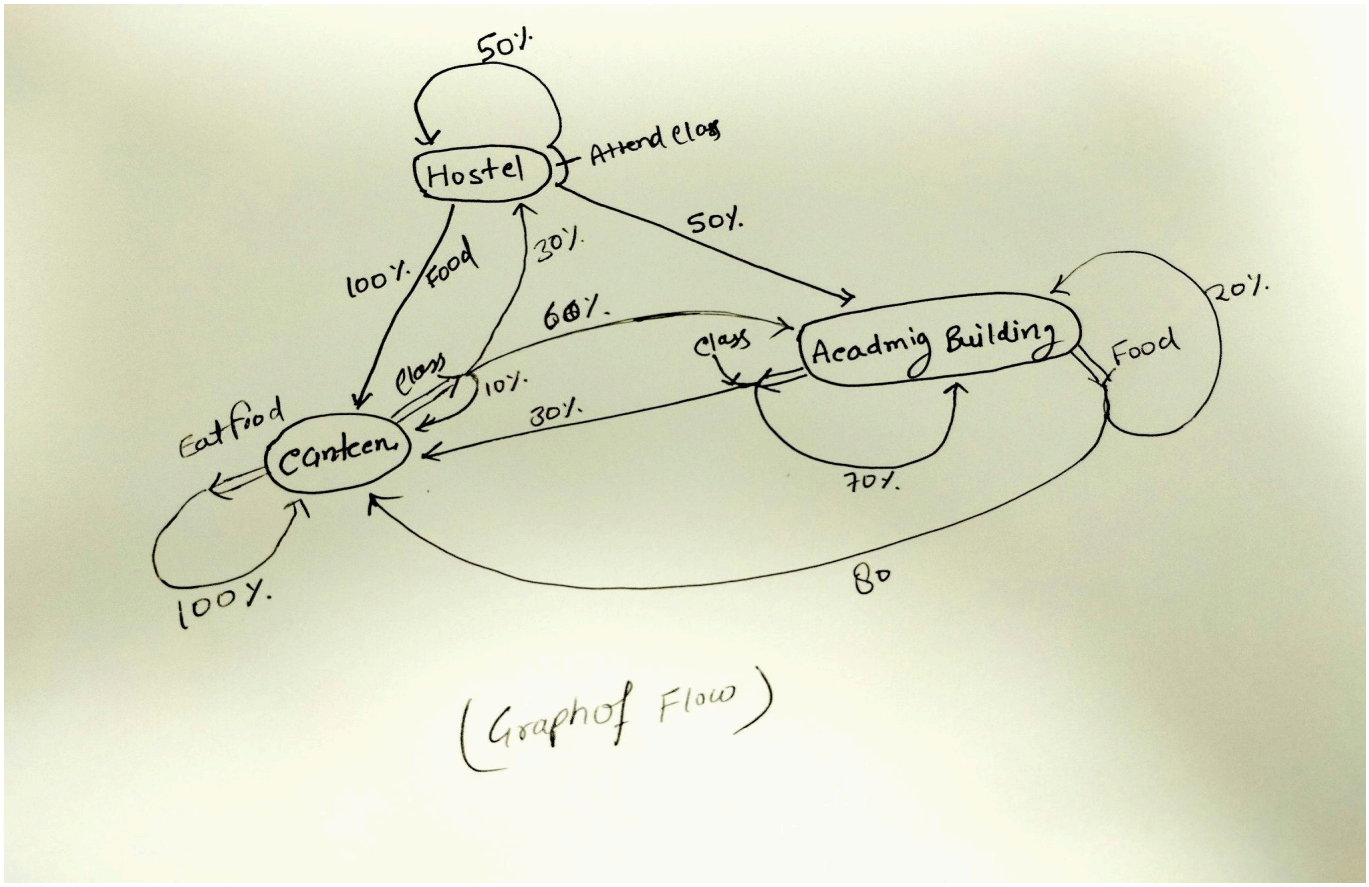
Policy Iteration Results:
Values:
Value for Hostel: 1.00
Value for AB: 2.40
Value for Canteen: 1.60

For gamma=0.9

Value Iteration Results:
Values:
Value for Hostel: 14.96
Value for AB: 22.22
Value for Canteen: 18.36

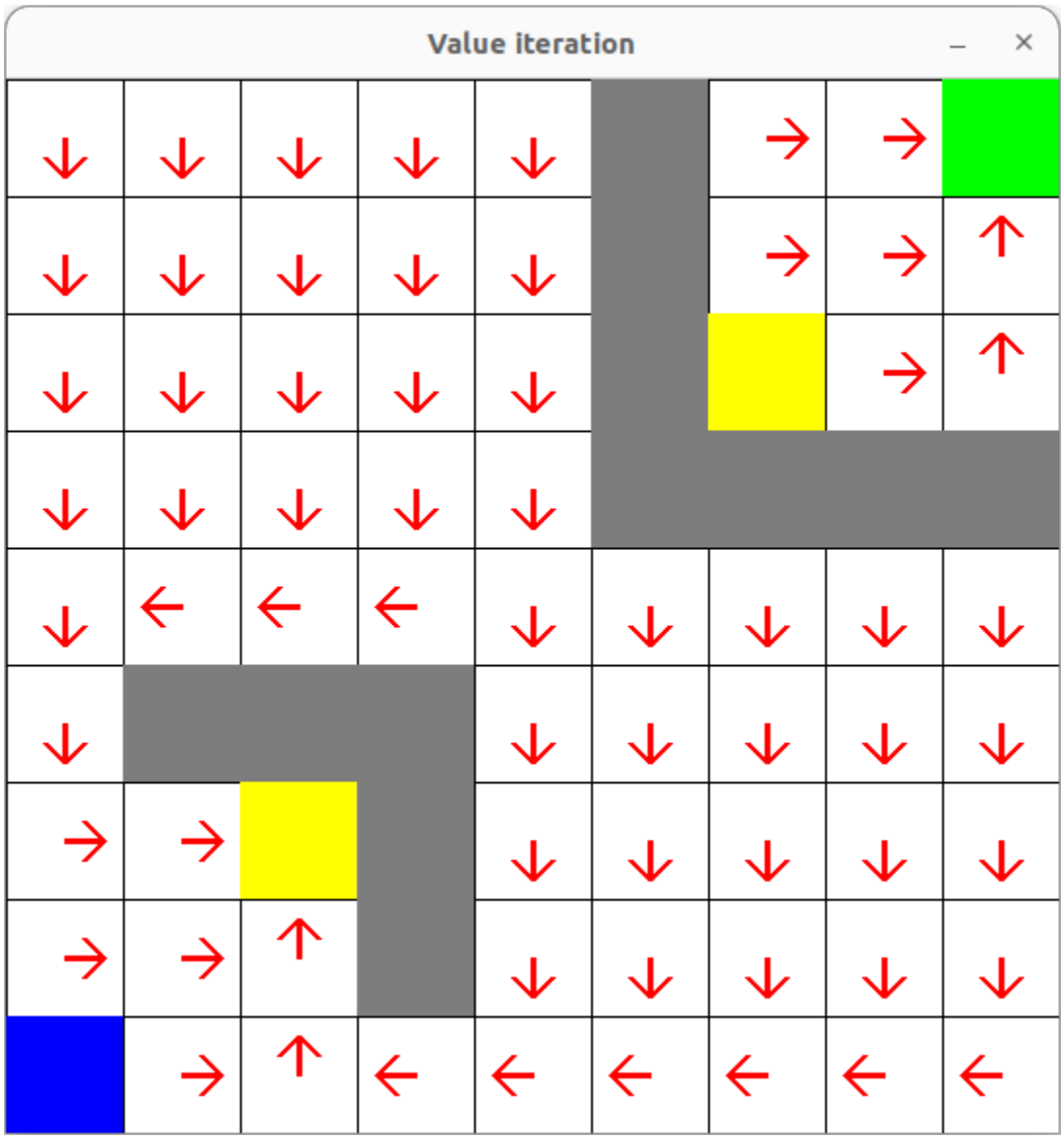
Policy Iteration Results:
Values:
Value for Hostel: 18.95
Value for AB: 20.94
Value for Canteen: 19.81

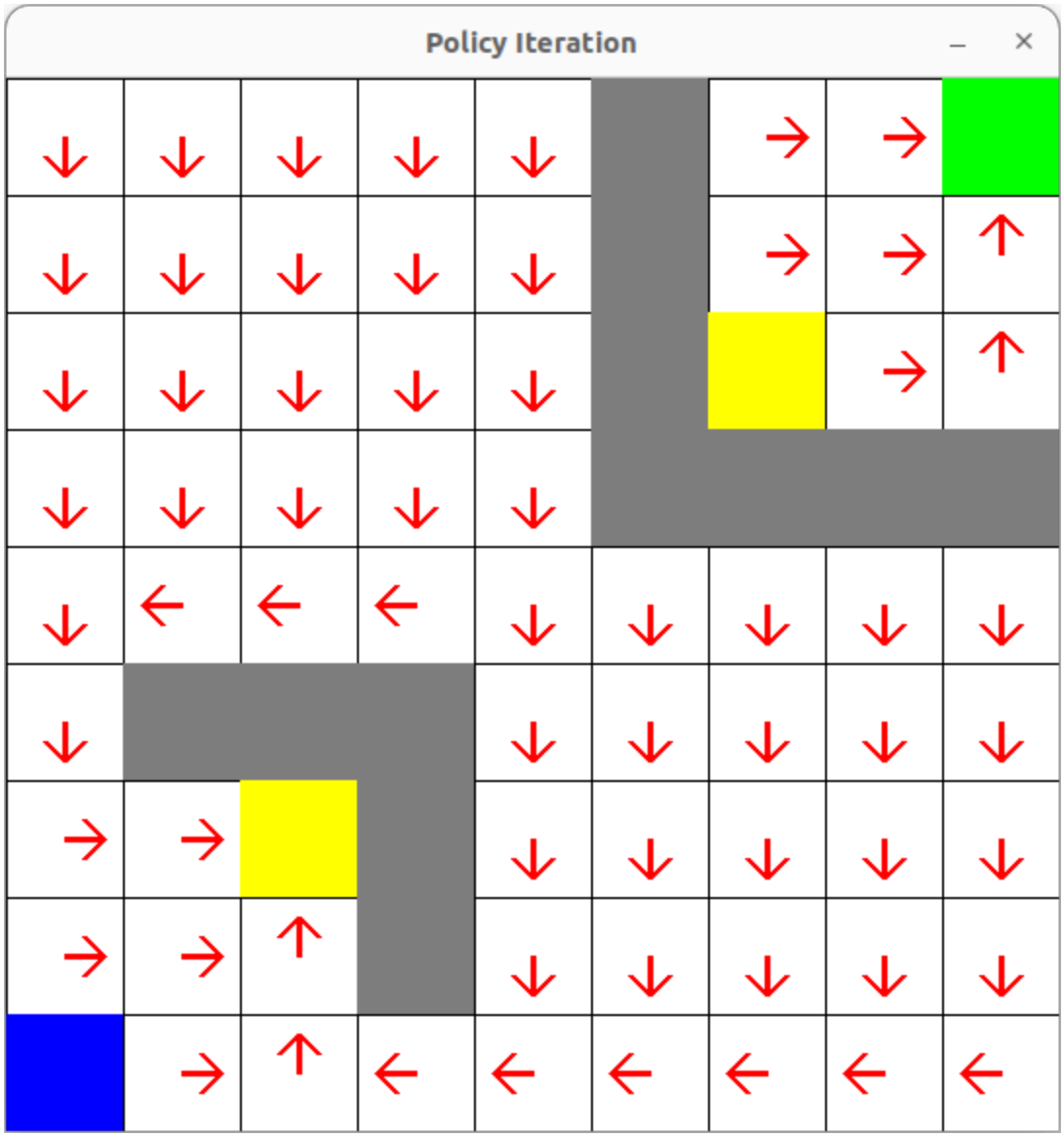
Policy:
Best action for Hostel: Class
Best action for AB: Class
Best action for Canteen: Class



Question2:

Here The Blue Block shows the location of robot
Green Block shows target of robot
Yellow Blocks shows the Ends of tunnel
Brown color blocks shows the wall in the grid




Policy Iteration