YOUR PROJECT TITLE

Your name
Github link to my project code

University of Maryland
your-email-address@umd.edu

Submission Checklist

Done	Item
_X_	Example completed task.
	Prepare Your Code
__	Push your code to a private GitHub repository. (If your results are not too large, please include your results too.)
__	Be sure your code has all planning models you used in your project.
__	Write a README.md that describes where things are in the repository.
__	Invite makro@umd.edu and dhchan@cs.umd.edu as collaborators to the repository.
	Fill the content (recommended order)
__	Add your results and evidence
__	Describe your evaluation plan
__	Complete the general discussion of Seciton 5.1
__	Fill in the Approach section
__	Fill in the background as needed to explain results and approach
__	Write the Introduction
	Complete the self assessment (after 12/2)
__	Copy the `grading-template.tex` from Piazza into your project.
__	Complete the self assessment.
__	Sign the pledge.
	Submit your report (after 12/2)
__	Create a PDF of this document
__	Submit the PDF to Gradescope, being sure to select the first page for the first question.
__	Email your PDF to makro@umd.edu.

Assessment

Your report will be distinguished by the following criteria:

- Approach:
  - Clearly states the technical approach of the work in a self-contained way.
  - The acting environment is clearly explained; stronger reports will include an example figure. If the environment started as a Gym environment but was modified, this is clear.
  - Includes a planning and acting component. For the acting, simulation is fine
  - Stronger reports will leverage or manipulate the integration in an interesting way.
- Evaluation:
  - Clear exposition of claims, questions, variables and protocol.
  - Evidence to support the claims in the form of a table or plot and no table or plot has font smaller than \scriptsize (about 6pt font).
  - Plots have axes that are clearly labeled and their captions state their intended meaning.
  - All plots and tables in Section **??** are referenced in the main portion of the paper; supplemental plots that are not referenced should be placed in the appendix.
  - A discussion of findings and how evidence relates to the claims
  - Stronger reports will have a baseline approach; while not required, there is already evidence of this in some reports.
  - It is certainly not required for this report, but you are welcome to include tests of statistical significance if this is something you know how to do.
  - The strongest reports will demonstrate what I call second-order thinking. This is where you conjecture a possible reason for the results you saw. It is even stronger if you run one or more experiments to verify this conjecture or provide analytical results showing why this is the case.
- Scope and Writing
  - Paper tells an interesting or noteworthy story rather than just a chronology of experiments. (Exhibits first-order thinking)
  - Written content is 2-4 pages, excluding floats (figures and tables), and floats are correctly placed in Section **??** to make this assessment easy!
  - Writing is easy to understand
  - Reader is not left ”wondering”. Consider yourself a teacher of your project. What would your ‘student’ need to know to understand the content?
  - Grammar is mostly sound; no obvious typos, misspelled words, sentence fragments, etc.
  - Citations are correct and consistent; URLs are fine for hyperlinks, but, generally, books and articles should use a bibtex entry.

Student Assessment: Please complete the orange boxes, replacing text within <.. >. For example, in the first entry you would replace "<replace:{ 1, 2, 3 } >" with "1" if you did a type 1 project. I suggest you change these one at a time and recomplile each time to make sure each change is correct.

Description	(your answer)
My project type was	1
My report (Sections 1-6) is this many pages long (for partial pages, use 0.3, 0.5, 0.7):	4.5
My planning system was (add rows if you had more than one)	<replace: planning system >
My acting system was (add rows if you had more than one)	<replace: acting system >
I invested approximately the following time, in hours, for each sprint: (this is for the instructor to assess relative difficulty)	
Sprint 1 : Development	<replace: integer [0,C] >
Sprint 1 : Report Writing	<replace: integer [0,C] >
Sprint 2 : Development	<replace: integer [0,C] >
Sprint 2 : Report Writing	<replace: integer [0,C] >
Sprint 3 : Development	<replace: integer [0,C] >
Sprint 3 : Report Writing	<replace: integer [0,C] >
I answered _____ research questions in my main report	<replace: integer [0,C] >
I included _____ plots in my main report	<replace: integer [0,C] >
I wrote _____ lines of code (excluding comments) for this project	<replace: integer [0,C] >
(If included, these were optional) I added an additional _____ plots in my appendix	<replace: integer [0,C] >
In terms of difficulty compared to other semester projects I have done, I would rate this project as (1-5 scale with 1 being easiest 5 being most difficult)	<replace: { 1, 2, 3, 4, 5 } >
In terms of what I learned, I would rate this (1-5 scale with 1 being "a little" and 5 being "a lot")	<replace: { 1, 2, 3, 4, 5 } >

Name: REPLACE THIS TEXT BY TYPING YOUR NAME HERE

(For this report, typing your name here will suffice)

I pledge on my honor that I have not given or received any unauthorized assistance on my programming project or report.

Instructor Assessment (Mak will fill this in)

Approach	Points Available	Earned Instructor Only
Clear technical approach	5	
Planning Environment (or other system) clearly explained	5	
Acting Environment (or other system) clearly explained	5	
Includes Planning and Acting Component	5	
Evaluation	**Points Available**	**Earned**
Clear exposition of claims, questions, variables and protocol	10	
Source code and overall development work	10	
Included baseline approach or ablation study, where appropriate (or demonstrated second order thinking/evaluation)	[5]	
Evidence to support claims is discussed and included in Section **??**	10	
Discussion of results	10	
Writing	**Points Available**	**Earned**
Clear story arc, paper within scope for project (2-4 pages of writing)	10	
Followed checklist for placing plots and tables and overall structure; all plots are referenced	5	
Grammar and overall writing is sound and citations are proper	5	
Overall	**Points Available**	**Earned**
Technical Difficulty (related to project type)	10	
Technical gains considering difficulty	10	

1 Introduction

No abstract is necessary.

Describe your project and the main goals.

2 Background

To the greatest extent possible, your report should be self contained. This means you should provide any background necessary for understanding your approach. If you are using an algorithm from the book, say so. You do not need to include the pseudocode for an algorithm from the book. For example, some of you might say something like the following.

This project uses *Run-Lazy-Lookahead*, (**?**), Algorithm 2.4. Briefly, this acting algorithm checks whether the agent has reached the goal. If an existing plan exists and *Simulate* is not failure, it performs the next action in the plan. Otherwise it creates a new plan. (Notice the use of macros from the 'macro.tex' file – these are optional but can really improve the readability of your report.)

On the other hand, some of you created your own procedures or used something from the literature. In that case, it might be a good idea to include pseudocode if you modified something from the book or created your own algorithm. I don't really want you to worry about using the algorithmic environment. For purposes of this report, I will accept psuedocode 'lite', which is basically the text like we have been using all semester, similar to the following:

```
procedure CrossPrint(arg1, arg2, arg3)
Q := { arg1 x arg2 }
while |Q| < arg3:
    print This statement is false.
    unused_item = pop(Q)
```

3 Approach

3.1 Planning Approach

3.2 Acting Approach

3.3 Environment

Include details about your environment.

If you use a URL link, you can put it in a footnote like this[1] Otherwise, cite it as a reference like usual.

4 Evaluation Plan

Discuss the questions you asked and what you were expecting to see.

Independent variables Describe the independent variables you varied.

Dependent variables Describe the dependent variables you measured.

5 Results

Here, simply describe what you found without evaluating it. You'll reference figures and tables from Section **??**, as needed.

[1] https://www.overleaf.com/learn/latex/

5.1 Discussion of Tradeoffs and Limitations

Describe the key insights of your results. Discuss limitations.

6 What I learned

Please describe here a few things you learned from this project.

- <replace with new item >
- <replace with new item >
- <replace with new item >
- <replace with new item >

7 Summary Figures and Tables

Here is where you will add figures and tables.

Appendix

Should you need to, you can add sections here for additional content.

A Large Tables or Figures go here

Table **??** shows an example table using the \table* environment. Similarly, Figure **??** shows an example large figure using the \figure* environment.

Country List			
Country Name or Area Name	ISO ALPHA 2 Code	ISO ALPHA 3 Code	ISO numeric Code
Afghanistan	AF	AFG	004
Aland Islands	AX	ALA	248
Albania	AL	ALB	008
Algeria	DZ	DZA	012
American Samoa	AS	ASM	016
Andorra	AD	AND	020
Angola	AO	AGO	024
Afghanistan	AF	AFG	004
Aland Islands	AX	ALA	248
Albania	AL	ALB	008
Algeria	DZ	DZA	012
American Samoa	AS	ASM	016
Andorra	AD	AND	020
Angola	AO	AGO	024
Afghanistan	AF	AFG	004
Aland Islands	AX	ALA	248
Albania	AL	ALB	008
Algeria	DZ	DZA	012
American Samoa	AS	ASM	016
Andorra	AD	AND	020
Angola	AO	AGO	024
Afghanistan	AF	AFG	004
Aland Islands	AX	ALA	248
Albania	AL	ALB	008
Algeria	DZ	DZA	012
American Samoa	AS	ASM	016
Andorra	AD	AND	020
Angola	AO	AGO	024

Table 1: Here is a caption for this example table, which came from the overleaf help documents at https://www.overleaf.com/learn/latex/Tables.

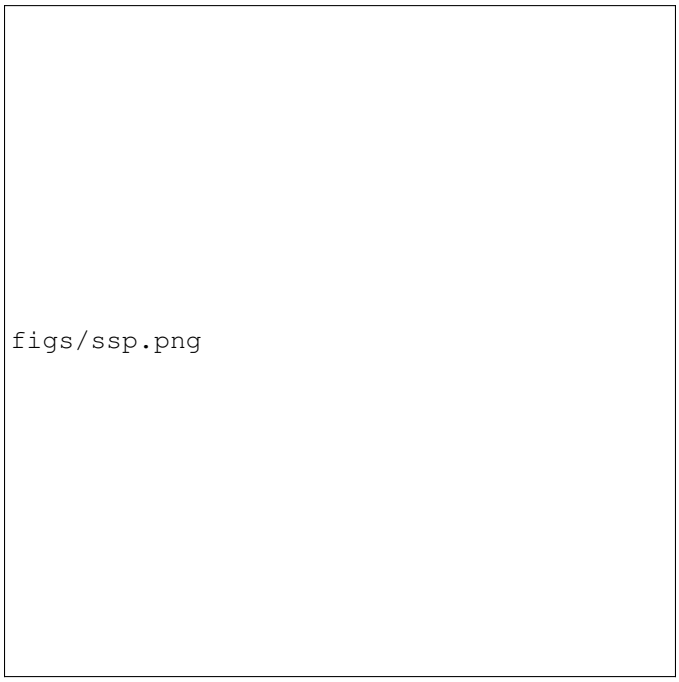

Figure 1: Here is a caption for this figure that you probably recognize.