

**Homework 0**  
Course Survey

1. Name:

Major:

Degree:

Email:

2. Do you intend to take this class for:

Credit

Audit

Undecided

3. Please specify which of the prerequisites you have taken:

CMSC420 Data Structures

CMSC351 Algorithms

CMSC330 Programming Languages

4. Please specify any other relevant courses you have taken:

5. Please rate on a scale from 1-10 your background in the following topics and languages  
(0 - 'what's that?' to 10 - 'expert'):

| topic             | rating |
|-------------------|--------|
| Data Structures   |        |
| Algorithms        |        |
| Complexity Theory |        |
| Logic             |        |
| Probability       |        |

| Languages | rating |
|-----------|--------|
| C/C++     |        |
| Java      |        |
| Lisp      |        |
| ML        |        |
| Prolog    |        |
| Smalltalk |        |

6. Please rate on a scale of 1 to 10 your interests in the following topics (1 - not interested, 10 - extremely interested; N/A if you've never heard of the topic):

| topic                       | rating |
|-----------------------------|--------|
| agents                      |        |
| game playing                |        |
| logic/theorem proving       |        |
| A.I. Languages              |        |
| scheduling                  |        |
| AI planning                 |        |
| reasoning under uncertainty |        |
| Bayesian networks           |        |
| machine learning            |        |
| data mining                 |        |
| decision trees              |        |
| neural networks             |        |
| support vector machines     |        |
| natural language processing |        |
| robotics                    |        |
| vision                      |        |

7. Why are you taking this course? Check all that apply:

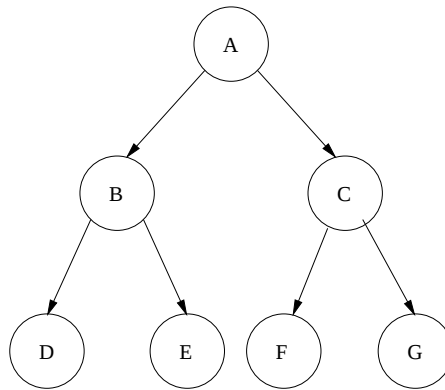
|                                                    |  |
|----------------------------------------------------|--|
| Needed to fulfill a requirement                    |  |
| Intellectual curiosity                             |  |
| Hope to do research in AI                          |  |
| Interested in applying AI in other fields (which?) |  |
| Other (fill in):                                   |  |

8. Additional comments:

9. (Modified UMD Honor Pledge) Please sign the following honor pledge: *I pledge on my honor that I will not give or receive any unauthorized assistance on any assignments, projects or examinations in this course.*

### Background Material

The following questions are on material that we assume you should be familiar with. This will not be graded.



1. a) Give the depth first order the nodes will be visited in the tree

b) Give the breadth first order the nodes will be visited in the tree

2. Let A and B two logical propositions. Fill in the truth table for:

| A | B | $A \vee B$ |
|---|---|------------|
| F | F |            |
| F | T |            |
| T | F |            |
| T | T |            |

| A | B | $A \Rightarrow B$ |
|---|---|-------------------|
| F | F |                   |
| F | T |                   |
| T | F |                   |
| T | T |                   |

3. Let A and B be two random events. Given the following probabilities:

$$P(A \& B) = 0.5$$

$$P(A \& \neg B) = 0.3$$

$$P(\neg A \& B) = 0.1$$

a)  $P(\neg A \& \neg B) = ?$

b) What is  $P(A)$ ?