CPS 4 Midterm – Spring 2005

Name (Print, 1pt): ______________________________________

Honor Acknowledgement:(signature): ___________________________

Unless otherwise indicated, circle only one choice for each multiple choice question.

The last page is blank and may be used as scratch paper. It must be turned in.
1. (3pts) Consider the following html code.

```html
<html>
<title>Welcome to Jan's Web Page</title>
<body>
<p>Hi, I'm Jan!</p>
</body>
</html>
```

Which of the following is the resulting web page?

A)

![Image of a web page displaying: Welcome to Jan's Web Page](image)

Hi, I'm Jan!

B)

Welcome to Jan's Web Page

Hi, I'm Jan!

C)

Welcome to Jan's Web Page

Hi, I'm Jan!
2. (3 pts) Consider the following html segment

```
<ol>
  <li> Duke
  <li> UNC
  <li> Wake Forest
</ol>
```

Which of the following is the correct display of the html segment?

A)  
   Duke
   UNC
   Wake Forest

B)  
   • Duke
   • UNC
   • Wake Forest

C)  
   1. Duke
   2. UNC
   3. Wake Forest
3. (3 pts) Consider the following html code segment.

```html
<p>
chess
</p>
<p>
soccer
</p>
<br />
piano
<br />
drama
```

Which of the following is the correct display of the html segment?

A)  
chess
soccer
piano
drama

B)  
chess
soccer
piano
drama

C)  
chess
soccer
piano
drama
4. (3 pts) Consider the following HTML code segment:

```
<table>
<tr>
<td>Kristina</td>
<td>Jenny</td>
<td>Peter</td>
</tr>
<tr>
<td>Sabrina</td>
<td>James</td>
<td>Henry</td>
</tr>
</table>
```

Which of the following is the correct display of the HTML segment?

A)  

<table>
<thead>
<tr>
<th>Kristina</th>
<th>Sabrina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jenny</td>
<td>Peter</td>
</tr>
<tr>
<td>James</td>
<td>Henry</td>
</tr>
</tbody>
</table>

B)  

<table>
<thead>
<tr>
<th>Kristina</th>
<th>Sabrina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jenny</td>
<td>Peter</td>
</tr>
<tr>
<td>James</td>
<td>Henry</td>
</tr>
</tbody>
</table>

C)  

<table>
<thead>
<tr>
<th>Kristina</th>
<th>Sabrina</th>
<th>Jenny</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter</td>
<td>James</td>
<td>Henry</td>
</tr>
</tbody>
</table>

D)  

<table>
<thead>
<tr>
<th>Kristina</th>
<th>Sabrina</th>
<th>Jenny</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peter</td>
<td>James</td>
<td>Henry</td>
</tr>
</tbody>
</table>

5. (6 pts) Fill in the blanks for the following.

To get colors on a web page, one can use RGB colors. RGB colors use base ______ arithmetic.

The RGB color white is ffffff. What color is 000000? ________________
6. (3 pts) What was the name of the first browser?

A) Lynx  
B) Mosaic  
C) Netscape  
D) WorldWideWeb

7. (3 pts) URLs are organized first by

A) domain  
B) directory on specific machine  
C) protocol  
D) university or company name

8. (4 pts) (Multiple answer. Circle all correct answers). Which of the following is/are an example of sequential programming?

A) ![Diagram A]
B) ![Diagram B]
C) ![Diagram C]
D) ![Diagram D]
For the next three questions, consider the description of an Alice world with certain items numbered.

The ground uses a grass template. There are three bunnies: Bunny, Bunny2 and Bunny3. When the world starts (1. Bunny is hopping up and down), Bunny2 is sleeping and Bunny3 is watching Bunny hop up and down. (2. The user clicks on Bunny2) and (3. Bunny2 starts hopping up and down.) (4. The user presses the letter S) and (5. Bunny stops hopping and stands still.) (6. The user presses the => key) and (7. Bunny3 says “Hop to it”).

9. (4 pts) List the numbers (1-7) that are events. ____________________________

10. (4 pts) List the numbers (1-7) that are event handlers. ______________________

11. (4 pts) Which of the following is/are objects? Circle all that are.

   A) ground
   B) Bunny
   C) Bunny2
   D) Bunny3

12. (3 pts) Each object in Alice has _____________-degrees of freedom. (fill in the blank).

13. (4 pts) Number the following steps for creating an animation program to put them in the correct order.

   ___ Implement
   ___ Design
   ___ Read the scenario
   ___ Test
14. (3 pts) Consider the following picture showing the ground’s axis.

What is the chicken’s position?

A) 1.0, -1.0, 0.0  
B) -1.0, 0.0, 2.0  
C) 1.0, 0.0, 2.0  
D) 2.0, 1.0, 1.0

15. (8 pts) Consider the following portion from an Alice world, showing some methods in the world.

For each of the following list all that apply: (B)uilt-in method, (C)lass-level method, (E)vent handler, (W)orld-level method.

- world.faceEachOther ____________________________________________  
- penguin.jump ___________________________________________________  
- horse1.move ___________________________________________________  
- horse1.whinny ___________________________________________________  

For each of the following list all that apply: (B)uilt-in method, (C)lass-level method, (E)vent handler, (W)orld-level method.

world.faceEachOther ____________________________________________  

penguin.jump ___________________________________________________  

horse1.move ___________________________________________________  

horse1.whinny ___________________________________________________  

8
16. (3 pts) Consider the following initial setup and Alice code.

After the code is executed, what does the scene look like?

A) 

B) 

C) 

D)
17. (3 pts) Consider the following method.

```plaintext
whiteRabbit.TheRace(distance, opponent)
```

Give the call for the whiteRabbit and Tortoise to race 6 meters.

18. (4 pts) Using the call from the previous question, the race occurs but the result is the two figures meld together as shown below. Explain why this happened and how to prevent them from running into each other.

19. (4 pts) Consider the method TheRace in problem 17. Which of the following are valid arguments for this method? (circle all that apply)

A) the number 10, cow
B) the number 0, ladybug
C) the number –4, ground
D) the string 10, cinderella
20. (4 pts) Consider the setup for an Alice animation with an alienOnWheels, a beachChair and a parkingMeter and the following code segment.

Assume in the figure below that you are looking from above on the alienOnWheels (represented by the circle). The beachChair is represented by a square with lines inside and the parkingMeter is represented by an empty square. Draw the path the alienOnWheels takes when the code segment is executed.
21. (4 pts) Consider the following Trex and code segment.

Explain what the animation looks like when this code segment runs. Don’t just repeat the words in the code.

22. (3 pts) Consider AliceLiddell shown below and one instruction also shown.

Which of the following represents what AliceLiddell looks like after the instruction has executed?

A) B) C) D)
23. (16 pts) Consider writing a Chicken method called chicken.GiveRide for the following scenario. A Chicken and Bunny are in a world as shown below in the first picture. The Chicken turns and looks at the Bunny, and scoots over to the Bunny stopping right in front of the Bunny. The Chicken turns around, the Bunny hops on and the Chicken gives the Bunny a ride as shown in the second figure below. Assume the height of the Chicken’s back is .125 meters. Also assume the animal’s legs do not need to move separately when they move (you do not need to teach them to walk or hop, just move their whole body).

A Chicken’s properties and methods are shown on the next page. Write your code on that page.
(Extra Page for scratch work – must turn in!)