

CSS385: Assignment 1 Question Sheet [Weighted as two assignments]

Instructions:

- In questions where you are asked to explain, please be concise.
- Show your work when necessary, be neat, precise, and brief!
- To help us grade your assignments and return this to you in a timely fashion please:
 - Put your name and answers in the answer sheet only (separate link provided). Anything you write outside of the answer sheet **will not** be graded.
 - Provide your answers in the order of the problems.
 - Please use only one side of 8.5x11 paper.
 - Please make sure you bring a hardcopy print out **of the answer sheet (!!only!!)** to submit at the beginning of class. Please do not print out the problems.

Your assignment may not be graded if any of the above is violated, you have been warned.

1. (4pt) The Development Environment:

- a. (1pt) Which is the file you need to modify to change the title on the game window?
- b. (1pt) When you change the icon for your application, which of the file(s) is/are changed in your development environment?
- c. (1pt) **True or False:** In all of the provided *ClassExample* projects (the ones under **In Class Examples** off our course website), you can remove the *MonoGameLib* folder after you build the project for the first time and continue to build the project successfully.
- d. (1pt) By default, all provided class example projects define the default game class name as ***ClassExample*** in *ClassExample.cs*, where we can see this line:

```
public class ClassExample : XNACS1Base
```

In MP1, you are told to change the name of this class to something else. Identify at least one other file you must modify after this name change.

2. (3pt) GTCS1Lib SDK. Let's evaluate the claim that GTCS1Lib is a SDK:

- a. (1pt) **True or False:** An API documentation is provided for the developers.
- b. (1pt) **True or False:** There are tutorials showing the developers how to work with the API.
- c. (1pt) **True or False:** An IDE wizard is provided to assist developer creating their own projects from scratch.

3. (3pt) Vector length and direction:

- a. (1pt) What is the length of $\vec{v} = \begin{bmatrix} 8 \\ 15 \end{bmatrix}$?
- b. (2pt) What is the direction of this vector?

4. (4pt) \vec{V} is my current Velocity (in Vector2), and the user gives me a new Vector2 quantity, \vec{D} . Given that both \vec{V} and \vec{D} are non-zero vectors, which of the following defines a new velocity that travels at the speed defined by \vec{V} in the new direction defined by \vec{D} .

- a. Velocity (Displacement/Time) = $\hat{V} * \hat{D}$
- b. Velocity (Displacement/Time) = $\vec{V} * \vec{D}$
- c. Velocity (Displacement/Time) = $\hat{V} * \vec{D}$
- d. Velocity (Displacement/Time) = $\vec{V} * \hat{D}$
- e. Velocity (Displacement/Time) = $\vec{V}.Length * \vec{D}.Length$
- f. Velocity (Displacement/Time) = $\vec{V}.Length * \hat{D}$
- g. Velocity (Displacement/Time) = $\hat{V} * \vec{D}.Length$
- h. All of the above
- i. None of the above

5. (6pt) We have a game window with resolution 1024x768, and in **InitializeWorld()** we call:

World.setWorldCoordinate(new Vector2(9, 6), 60)

- a. (1pt) What is the Width of the world?
- b. (2pt) What is the Height of the world?
- c. (3pt) Assume the **Update()** function is called exactly 30 times a second, if we want a ball to travel *horizontally* from left of the window to the right of the window in 4 seconds. What should be speed of the ball be? Express your answer in Unit/Update.