CS380 Quiz Assignment 1

Due: Apr-4: Submit your answer at the beginning of Tue. class

Name:

Student ID:

You want to make a virtual merry-go-round as shown in below.

You define a horse object in a modeling space, $\dot{m}^t$, and define the merry-go-round in another space, say, world space, $\dot{w}^t$. You know that the relationship between two spaces is like this: $\dot{m}^t Z = \dot{w}^t$

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Question:

You want to rotate the horse in the center of the merry-go-round with a transformation matrix R, which is defined in the world space. To achieve this, what is the transformation matrix that you have to perform to the horse defined in the modeling space?

Your derivation:

(This should be based on the frame transformation that we studied in the class. For the derivation, you don't need to introduce new terms other than using $\dot{m}^t$, $\dot{w}^t$, Z and R.)

Policies: Everyone must turn in their own assignment. You can collaborate with others, but any work that you turn in should be your own.