

# Program 4

*Due 9am, Monday November 8, 2021*

Your GitLab repository should now contain a folder called Program-4 containing the code for a modified version of the windmill from the Box2D Joint Toy.



When you hit the space bar, a ball, tire, or crate drops from above. Although collision detection and response has been implemented for the circular windmill blade assembly, it has not been implemented for the base of the windmill, as shown below.



Add code to function `CWindmill::CreateBase` to implement collision detection and response for the windmill base, as shown below.



Once you have completed the task, commit and push your Program-4 folder before the deadline at the top of this page. Hint: You will need to add a number of fixtures with polygonal shapes to a body for the windmill base. Note that shape coordinates are in body space, that is, in Physics World coordinates relative to the center of the sprite. You can find the coordinates of the points in Artist World coordinates (relative to the top left corner of the sprite) by opening `windmillbase.png` in an image editing tool such as Paint.net. In Paint.net the coordinates of the mouse pointer are given at bottom of the window as shown below. I've done two polygons for you below. Do the crosspiece yourself.

