

MuJoCo: projectile with drag (I)

Create XML

1. Create `ball.xml`
2. Readable xml: `simulate > drop xml > Print model`. See `bin/MJMODEL.TXT`

Create makefile, C, and executable

3. From tiny.cc/mujoco download `template.zip` and unzip in `myproject`
4. Rename `template` to `projectile`
5. Make these three changes
 1. `main.c` — line 13, change `template/hello.xml` to `projectile/ball.xml`
 2. `makefile` — change `ROOT = template` to `ROOT = projectile` also `UNCOMMENT` (remove `#`) appropriate to your OS
 3. `run_unix` OR `run_win.bat` change `<template>` to `<projectile>`
6. In the `*shell`, navigate to `projectile` and type `./run_main` (unix) or `run_win` (windows); `*shell` = terminal for mac/linux and x64 (visual studio) for win

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- Use the API reference for MuJoCo variables/functions;

<https://mujoco.readthedocs.io/en/latest/>

[APIreference.html](#)

- Bookmark this page.
- **We will modify main.c using API reference.**
 - `m = mj_loadModel(...); //m = model`
 - `d = mj_makeData(m); //d = data`
 - `mj_step(d,m); //integrate for one time step`

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- Summary of commands in this section
 - Change the view; `cam.azimuth` and so on...
 - Change gravity: `m-> opt.gravity`
 - Show frames: `opt.frame`
 - Set init. position/velocity: `d->qpos, d->qvel`
 - Apply drag force: `d->qfrc_applied`