CME 212 Feedback hw2

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File: Graph.hpp
Line: 252

Your current implementation of remove node is not good design due to the use of a single node id value that is the index into your data structure. You really should be keeping a node uid as you did previously, and maintaing a mapping of the indices in the data structure to this uid. Your current method is bad because once you remove a node from your data structure, all the indices will shift, rendering any dispatched node objects with an index greater than the removed node invalid. Really make sure to check out the posted examples to see what I am talking about.

File: mass_spring.cpp
Line: 130

You really shouldn't be creating your constraint object inside this function. You should create it outside and pass it in as an additional argument.

```
//auto tempConstraint = totalConstraint(removeSphereConstraint(), planeConstraint());
```

File: mass_spring.cpp
Line: 140

You should make this into another type of contraint rather than hard code it.

```
if(n.position() != Point(0,0,0) && n.position() != Point(1, 0, 0)){

      // Update the position of the node according to its velocity
      // x^{n+1} = x^{n} + v^{n} * dt
      n.position() += n.value().vel * dt;
    }

    if(n.position() == Point(0,0,0) || n.position() == Point(1, 0, 0)){

      // set its velocity as 0
      n.value().vel = Point(0, 0, 0);
    }
```

File: mass_spring.cpp
Line: 241

Why are you setting the damping constant to 0? Also, why is it static?!

```
double DampingForce::c = 0;
```

File: mass_spring.cpp
Line: 318

Why not use your edge iterator to iterator over edges here?

```
for(auto it = graph.node_begin(); it != graph.node_end(); ++it){
     for(auto ij = (*it).edge_begin(); ij != (*it).edge_end(); ++ij){
    (*ij).value().K = 100;
    (*ij).value().L = (*ij).length();
     }
  }
```

File: mass_spring.cpp
Line: 369

Your implementation is not working really working past the functionality of the Problem1Force section. In particular, your mass spring force computations do not seem to be correct. The sheet should not be "curling" into itself at rest. Please check the examples posted and ensure your underlying graph is working properly.

Your hw2 grade:

$\boxed{6}$

Grade	Explanation
0	Did not try, did not hand in, or submitted too late with no late-days left.
1-2	Poor. Little to no serious attempt on this homework. Submission has barely changed since last homework (if any) or did not follow the guidelines at all.
3-4	Poor. Did not finish but a good attempt. Conveyed the message of understanding the material.
5-6	Fair. Code is buggy but could be debugged and/or some major conceptual errors. Code does work and produces output along homework guidelines.
7-8	Good. Code compiles and runs properly with mostly the right output. Some mistakes and minor conceptual errors that could be worked on.
9-10	Excellent. No or very few minor mistakes. Conveyed solid understanding of the material.
11	Exceptional. Showed extra insight. Implemented features that improved the code beyond what was requested.