Explanation

**Implementing Gravity**

http://gamedev.stackexchange.com/questions/15708/how-can-i-implement-gravity

**Collision Detection**

**Collision Response**

1. Book Game Physics

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2. Chris Hecker's

http://chrishecker.com/Homepage

3. Collision with ground

Geometric Series - Bouncing Ball

https://www.youtube.com/watch?v=ZWEYeT43W4U

Infinite Bounce

http://gamedev.stackexchange.com/questions/49616/why-do-restitution-values-less-than-one-still-cause-infinite-bouncing-in-box2d

http://lolengine.net/blog/2011/12/14/understanding-motion-in-games

**4. Resting Contact**

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Second we need to recognize when an object has velocity that could only have

arisen from its forces acting for one frame. After frame 1, the velocity of the particle is

caused solely by the force of gravity acting on it for one frame.We can work out what

the velocity would be if only the force acted on it, by simply multiplying the force by

the frame duration. If the actual velocity of the object is less than or equal to this value

(or even slightly above it, if we acknowledge that rounding errors can creep in), we know that the particle was stationary at the previous frame. In this case the contact

is likely to be a resting contact rather than a colliding contact.

**5. Codeblocks compiling stupidity**

when I switch between "Explosion Generator projection" and the "Tutorial" projection(Cplusplusguy), due to compilation issues, I can't get it to work

"Explosion Generator" requires "-std-c++0x" option

but this option won't work with printf, sprintf

To fix this, go to Codeblocks->Compiler-> other Options, you get

-std=gnu++0x

Reference:

https://gcc.gnu.org/bugzilla/show\_bug.cgi?id=40278

**6. Lighting**

**per-fragment lighting**

1. Specular Light

- Specular Light is the bright spot that occurs when light hits an object surface and reflects back towards the camera.

- Falls of more rapidly across the object surface

**7. Shader**

**if a #version directive does not appear at the top, then it assumes 1.10,**