TemplateUml
`<<templateUML>>`

Integer example

String toString()

Drawable
`<<interface>>`

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void drawObj()

Collideable
`<<interface>>`

---

boolean isColliding(Collideable other)
void collide(Collideable other)
void collide() // unneeded?
void move()
int getX(); int getY()
int getWidth(); int getHeight()

Tile
`<<class>>`

TileType _type
Drawable _tower
int _xPos
int _yPos

Tile(int x, int y, int type)
boolean towerPlaceable()

Tower
`<<class>>`

---

int _range
int _reloadTime
Queue _enemies
int _angle
int _xPos
int _yPos

Tower(int xPos, int yPos, int range,
        int reloadTime)
void cheque() // makes sure that
  enemy at head of queue is alive and
  within range of tower
void detect() // finds and adds nearby
  enemies to queue
void shoot()

Projectile
`<<class>>`

---

int _dmg
int _dx
int _dy
int _xPos
int _yPos

Projectile(int x, int y,int dmg,
        int dx, int dy)

Enemy
`<<class>>`

---

int _hp
int _xPos
int _yPos

Enemy()
boolean isAlive()

QuadTree
`<<class>>`

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int _maxObjects
int _maxLevels // unneeded?
int _level
List _objects
Rectangle _bounds
QuadTree[] _nodes
QuadTree _parent // unneeded?

QuadTree(int level,
        Rectangle bounds)
----
void clear()
void split()
int getIndex()
void insert(Collideable obj)
List retrieve(List retList,
            Collideable obj)
void insertCollideables(List objects)
// Iterate through objects. If an object
  is a Collideable, insert it into to the
  quadTree

Map
`<<class>>`

Tile[] _board
int _xStart
int _yStart
int _xEnd
int _yEnd
Queue<Enemy> _spawnEnemies

Map()

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```
                              <<class>>
                                Game
                             (Main Class)



Tile[] board // replace with instance of Map class later
List<Drawable> _drawables // List of all drawable objects. Also happens to be a list of all game objects
QuadTree _qTree
boolean gameStarted // set to true when user clicks start




void setup()
void draw()
void render() // clears screen; iterates through _drawables and draws everything
void doCollisions() // adds every Collideable to the QuadTree; checks for collisions and acts accordingly
```

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