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| --- |
| abstract Brick |
| -Rectangle rect |
| +Brick()  +draw(Graphics g) : void  +getBrick() : Rectangle  +abstract getImage() : Image  +abstract updateBrick() : void  +abstract getHits() : double  +abstract updateLaser() : void  +abstract updateBullet() : void  +setLoc(x,y) : void  +move() : void |

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| --- |
| MetalBrick extends Brick |
| no instance variables |
| +MetalBrick()  +updateBrick() : void  +getImage() : Image  +getHits() : double  +updateLaser() : void  +updateBullet() : void |

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| --- |
| NormalBrick extends Brick |
| -double hits  -String file  -boolean hasPowerUp  -PowerUp p |
| +NormalBrick(double hits, double hP)  +getHits() : double  +getPowerUp() : PowerUp  +setPowerUp(boolean has)  +getImage() : Image  +updateBrick() : void  +updateLaser() : void  +updateBullet() : void |

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| --- |
| PowerUp |
| -String type  -Rectangle powerUp  -Rectangle text |
| +PowerUp(String type)  +setLoc(int x,int y) : void  +getPowerUp() : Rectangle  +getImage() : Image  +draw(Graphics g) : void  +fall() : void  +getType() : String |

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| --- |
| Paddle |
| -int speed  -boolean right  -boolean left  -Rectangle paddle  -String file |
| +Paddle(int speed)  +draw(Graphics g) : void  +getImage() : Image  +getPaddle() : Rectangle  +resetPaddle() : void  +getSpeed() : int  +setSpeed(int s) : void  +normalPaddle() : void  +laserPaddle() : void  +gunPaddle() : void  +longPaddle() : void  +flip() : void |

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| --- |
| Ball |
| +int xSpeed  +int ySpeed  -Rectangle ball  -Ellipse2D.Double circle |
| +Ball()  +Ball(int x, int y, int xS, int yS)  +getImage() : Image  +getBall() : Rectangle  +getCircle() : Ellipse2D.Double  +resetBall() : void  +setXSpeed(int x) : void  +setYSpeed(int y) : void |

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| --- |
| interface Level |
| no instance variables |
| +setLoc(int loc, int x, int y) : void  +placeBricks() : void  +getBricks() : ArrayList<Brick> |

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| --- |
| Level 1-34 |
| -ArrayList<Brick> b |
| +Level[1-34]()  +setLoc(int loc, int x, int y) : void  +placeBricks() : void  +getBricks() : ArrayList<Brick> |

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| --- |
| Laser |
| -Rectangle l  -int speed |
| +Laser(int x)  +getImage() : Image  +draw(Graphics g) : void  +move() : void  +getLaser() : Rectangle |

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| --- |
| Laser |
| -Rectangle b  -int speed |
| +Bullet(int x)  +getImage() : Image  +draw(Graphics g) : void  +move() : void  +getBullet() : Rectangle |

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| --- |
| Arrow |
| -Rectangle arrow  -int loc  -int[] angle  -int[] x  -int[] y  -int xSpeed  -int ySpeed  -int ang  -String fileName |
| +Arrow()  +left() : void  +right() : void  +getArrow() : Rectangle  +draw(Graphics g) : void  +getImage() : Image |

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| --- |
| ImageLoader |
| -TreeMap<String, BufferedImage> cache |
| +loadCompatibleImage(String path) : BufferedImage  +loadImage(String path) : BufferedImage  +getCompatibleImage(Image img) : BufferedImage |

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| --- |
| Game extends JPanel implements ActionListener, KeyListener |
| -AraryList<Ball> balls  -ArrayList<Level> levels  -ArrayList<Brick> b  -Paddle p  -Ball ball  -Rectangle r  -Arrow a  -Timer timer  -int gameWidth  -int gameHeight  -JLabel background  -ArrayList<PowerUp> pU  -ArrayList<Laser> leftLasers  -ArrayList<Laser> rightLasers  -ArrayList<Bullet> bullet  -int[] locs  -int loc  -int highscore  -int currentLevel  -int lives  -int score  -int ammo  -int contacts  -int moves  -boolean laser  -boolean gun  -boolean cat  -boolean n  -boolean bomb  -boolean pause  -boolean shake |
| +main() : static void  +addLevels() : void  +Game()  +actionPerformed() : void  +keyPressed(KeyEvent e) : void  +keyReleased(KeyEvent e) : void  +keyTyped(KeyEvent e) : void  +setUpGame() : void  +update() : void  +paint(Graphics g) : void  +usePowerUp(PowerUp e) : void  +movePaddle() : void  +handleBrickContacts() : void  +handleLasers() : void  +handleBullets() : void  +handlePowerUps() : void  +handleBallDirection() : void  +moveBricks() : void  +onlyMetal() : Boolean  +nextLevel() : void  +reset() : void  +removeBalls() : void  +handleInfiniteLoop() : void  +endGame() : void |