**Robocode Quick Reference**

Here are some of the most common robot methods and events that you can use when programming your robot. Check out the official documents for additional commands.



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| **Robot Method Summary (basic robot control)** | | |
| void | | [**ahead**](file:///C:\robocode\javadoc\robocode\Robot.html#ahead(double))(double distance)  Immediately moves your robot ahead (forward) by distance measured in pixels. |
| void | | [**back**](file:///C:\robocode\javadoc\robocode\Robot.html#back(double))(double distance)  Immediately moves your robot backward by distance measured in pixels. |
| void | | [**doNothing**](file:///C:\robocode\javadoc\robocode\Robot.html#doNothing())()  Do nothing this turn, meaning that the robot will skip it's turn. |
| void | | [**fire**](file:///C:\robocode\javadoc\robocode\Robot.html#fire(double))(double power)  Immediately fires a bullet. |
| double | | [**getBattleFieldHeight**](file:///C:\robocode\javadoc\robocode\Robot.html#getBattleFieldHeight())()  Returns the height of the current battlefield measured in pixels. |
| double | | [**getBattleFieldWidth**](file:///C:\robocode\javadoc\robocode\Robot.html#getBattleFieldWidth())()  Returns the width of the current battlefield measured in pixels. |
| double | | [**getEnergy**](file:///C:\robocode\javadoc\robocode\Robot.html#getEnergy())()  Returns the robot's current energy. |
| double | | [**getGunHeading**](file:///C:\robocode\javadoc\robocode\Robot.html#getGunHeading())()  Returns the direction that the robot's gun is facing, in degrees. |
| double | | [**getGunHeat**](file:///C:\robocode\javadoc\robocode\Robot.html#getGunHeat())()  Returns the current heat of the gun. |
| double | | [**getHeading**](file:///C:\robocode\javadoc\robocode\Robot.html#getHeading())()  Returns the direction that the robot's body is facing, in degrees. |
| int | | [**getOthers**](file:///C:\robocode\javadoc\robocode\Robot.html#getOthers())()  Returns how many opponents that are left in the current round. |
| double | | [**getRadarHeading**](file:///C:\robocode\javadoc\robocode\Robot.html#getRadarHeading())()  Returns the direction that the robot's radar is facing, in degrees. |
| long | | [**getTime**](file:///C:\robocode\javadoc\robocode\Robot.html#getTime())()  Returns the game time of the current round, where the time is equal to the current turn in the round. |
| double | | [**getVelocity**](file:///C:\robocode\javadoc\robocode\Robot.html#getVelocity())()  Returns the velocity of the robot measured in pixels/turn. |
| double | | [**getX**](file:///C:\robocode\javadoc\robocode\Robot.html#getX())()  Returns the X position of the robot. (0,0) is at the bottom left of the battlefield. |
| double | | [**getY**](file:///C:\robocode\javadoc\robocode\Robot.html#getY())()  Returns the Y position of the robot. (0,0) is at the bottom left of the battlefield. |
| void | | [**onBulletHit**](file:///C:\robocode\javadoc\robocode\Robot.html#onBulletHit(robocode.BulletHitEvent))([BulletHitEvent](file:///C:\\robocode\\javadoc\\robocode\\BulletHitEvent.html" \o "class in robocode) event)  This method is called when one of your bullets hits another robot. |
| void | | [**onBulletHitBullet**](file:///C:\robocode\javadoc\robocode\Robot.html#onBulletHitBullet(robocode.BulletHitBulletEvent))([BulletHitBulletEvent](file:///C:\\robocode\\javadoc\\robocode\\BulletHitBulletEvent.html" \o "class in robocode) event)  This method is called when one of your bullets hits another bullet. |
| void | | [**onHitByBullet**](file:///C:\robocode\javadoc\robocode\Robot.html#onHitByBullet(robocode.HitByBulletEvent))([HitByBulletEvent](file:///C:\\robocode\\javadoc\\robocode\\HitByBulletEvent.html" \o "class in robocode) event)  This method is called when your robot is hit by a bullet. |
| void | | [**onHitRobot**](file:///C:\robocode\javadoc\robocode\Robot.html#onHitRobot(robocode.HitRobotEvent))([HitRobotEvent](file:///C:\\robocode\\javadoc\\robocode\\HitRobotEvent.html" \o "class in robocode) event)  This method is called when your robot collides with another robot. |
| void | | [**onHitWall**](file:///C:\robocode\javadoc\robocode\Robot.html#onHitWall(robocode.HitWallEvent))([HitWallEvent](file:///C:\\robocode\\javadoc\\robocode\\HitWallEvent.html" \o "class in robocode) event)  This method is called when your robot collides with a wall. |
| void | | [**onScannedRobot**](file:///C:\robocode\javadoc\robocode\Robot.html#onScannedRobot(robocode.ScannedRobotEvent))([ScannedRobotEvent](file:///C:\\robocode\\javadoc\\robocode\\ScannedRobotEvent.html" \o "class in robocode) event)  This method is called when your robot sees another robot, i.e. when the robot's radar scan "hits" another robot. |
| void | | [**resume**](file:///C:\robocode\javadoc\robocode\Robot.html#resume())()  Immediately resumes the movement you stopped by [Robot.stop()](file:///C:\robocode\javadoc\robocode\Robot.html#stop()), if any. |
| void | | [**scan**](file:///C:\robocode\javadoc\robocode\Robot.html#scan())()  Scans for other robots. |
| void | | [**setAdjustGunForRobotTurn**](file:///C:\robocode\javadoc\robocode\Robot.html#setAdjustGunForRobotTurn(boolean))(boolean independent)  Sets the gun to turn independent from the robot's turn. |
| void | | [**setAdjustRadarForGunTurn**](file:///C:\robocode\javadoc\robocode\Robot.html#setAdjustRadarForGunTurn(boolean))(boolean independent)  Sets the radar to turn independent from the gun's turn. |
| void | | [**setAdjustRadarForRobotTurn**](file:///C:\robocode\javadoc\robocode\Robot.html#setAdjustRadarForRobotTurn(boolean))(boolean independent)  Sets the radar to turn independent from the robot's turn. |
| void | | [**stop**](file:///C:\robocode\javadoc\robocode\Robot.html#stop())()  Immediately stops all movement, and saves it for a call to [Robot.resume()](file:///C:\robocode\javadoc\robocode\Robot.html#resume()). |
| void | | [**turnGunLeft**](file:///C:\robocode\javadoc\robocode\Robot.html#turnGunLeft(double))(double degrees)  Immediately turns the robot's gun to the left by degrees. |
| void | | [**turnGunRight**](file:///C:\robocode\javadoc\robocode\Robot.html#turnGunRight(double))(double degrees)  Immediately turns the robot's gun to the right by degrees. |
| void | | [**turnLeft**](file:///C:\robocode\javadoc\robocode\Robot.html#turnLeft(double))(double degrees)  Immediately turns the robot's body to the left by degrees. |
| void | | [**turnRadarLeft**](file:///C:\robocode\javadoc\robocode\Robot.html#turnRadarLeft(double))(double degrees)  Immediately turns the robot's radar to the left by degrees. |
| void | | [**turnRadarRight**](file:///C:\robocode\javadoc\robocode\Robot.html#turnRadarRight(double))(double degrees)  Immediately turns the robot's radar to the right by degrees. |
| void | | [**turnRight**](file:///C:\robocode\javadoc\robocode\Robot.html#turnRight(double))(double degrees)  Immediately turns the robot's body to the right by degrees. |
| **ScannedRobotEvent Method Summary (When your radar detects someone)** | | |
| double | [**getBearing**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getBearing())()  Returns the bearing to the robot you scanned, relative to your robot's heading, in degrees (-180 <= getBearing() < 180) | |
| double | [**getBearingRadians**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getBearingRadians())()  Returns the bearing to the robot you scanned, relative to your robot's heading, in radians (-PI <= getBearingRadians() < PI) | |
| double | [**getDistance**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getDistance())()  Returns the distance to the robot (your center to his center). | |
| double | [**getEnergy**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getEnergy())()  Returns the energy of the robot. | |
| double | [**getHeading**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getHeading())()  Returns the heading of the robot, in degrees (0 <= getHeading() < 360) | |
| double | [**getHeadingRadians**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getHeadingRadians())()  Returns the heading of the robot, in radians (0 <= getHeading() < 2 \* PI) | |
| [String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html) | [**getName**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getName())()  Returns the name of the robot. | |
| double | [**getVelocity**](file:///C:\robocode\javadoc\robocode\ScannedRobotEvent.html#getVelocity())()  Returns the velocity of the robot. | |

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| **HitByBulletEvent Method Summary (You’ve been shot!)** | |
| double | [**getBearing**](file:///C:\robocode\javadoc\robocode\HitByBulletEvent.html#getBearing())()  Returns the bearing to the bullet, relative to your robot's heading, in degrees (-180 < getBearing() <= 180)  If you were to turnRight(e.getBearing()), you would be facing the direction the bullet came from. |
| double | [**getBearingRadians**](file:///C:\robocode\javadoc\robocode\HitByBulletEvent.html#getBearingRadians())()  Returns the bearing to the bullet, relative to your robot's heading, in radians (-Math.PI < getBearingRadians() <= Math.PI) . If you were to turnRightRadians(e.getBearingRadians()), you would be facing the direction the bullet came from. |
| double | [**getHeading**](file:///C:\robocode\javadoc\robocode\HitByBulletEvent.html#getHeading())()  Returns the heading of the bullet when it hit you, in degrees (0 <= getHeading() < 360)  Note: This is not relative to the direction you are facing. |
| double | [**getHeadingRadians**](file:///C:\robocode\javadoc\robocode\HitByBulletEvent.html#getHeadingRadians())()  Returns the heading of the bullet when it hit you, in radians (0 <= getHeadingRadians() < 2 \* PI)  Note: This is not relative to the direction you are facing. |
| [String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html) | [**getName**](file:///C:\robocode\javadoc\robocode\HitByBulletEvent.html#getName())()  Returns the name of the robot that fired the bullet. |
| double | [**getPower**](file:///C:\robocode\javadoc\robocode\HitByBulletEvent.html#getPower())()  Returns the power of this bullet. |
| double | [**getVelocity**](file:///C:\robocode\javadoc\robocode\HitByBulletEvent.html#getVelocity())()  Returns the velocity of this bullet. |

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| **HitRobot Event Method Summary (Your robot collides with another robot)** | |
| double | [**getBearing**](file:///C:\robocode\javadoc\robocode\HitRobotEvent.html#getBearing())()  Returns the bearing to the robot you hit, relative to your robot's heading, in degrees (-180 <= getBearing() < 180) |
| double | [**getBearingRadians**](file:///C:\robocode\javadoc\robocode\HitRobotEvent.html#getBearingRadians())()  Returns the bearing to the robot you hit, relative to your robot's heading, in radians (-PI <= getBearingRadians() < PI) |
| double | [**getEnergy**](file:///C:\robocode\javadoc\robocode\HitRobotEvent.html#getEnergy())()  Returns the amount of energy of the robot you hit. |
| [String](http://java.sun.com/j2se/1.5.0/docs/api/java/lang/String.html) | [**getName**](file:///C:\robocode\javadoc\robocode\HitRobotEvent.html#getName())()  Returns the name of the robot you hit. |
| boolean | [**isMyFault**](file:///C:\robocode\javadoc\robocode\HitRobotEvent.html#isMyFault())()  Checks if your robot was moving towards the robot that was hit. |

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| **HitWallEvent Method Summary (When your robot hits a wall!)** | |
| double | [**getBearing**](file:///C:\robocode\javadoc\robocode\HitWallEvent.html#getBearing())()  Returns the bearing to the wall you hit, relative to your robot's heading, in degrees (-180 <= getBearing() < 180). If the bearing is 30 degrees, the wall is at ‘1 oclock’ relative to your tank direction. |
| double | [**getBearingRadians**](file:///C:\robocode\javadoc\robocode\HitWallEvent.html#getBearingRadians())()  Returns the bearing to the wall you hit, relative to your robot's heading, in radians (-PI <= getBearingRadians() < PI) |

