**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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#ahead(double))(double distance) Immediately moves your robot ahead (forward) by distance measured in pixels. |
| void | [**back**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#back(double))(double distance) Immediately moves your robot backward by distance measured in pixels. |
| void | [**doNothing**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#doNothing())() Do nothing this turn, meaning that the robot will skip it's turn. |
| void | [**fire**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#fire(double))(double power) Immediately fires a bullet. |
| double | [**getBattleFieldHeight**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getBattleFieldHeight())() Returns the height of the current battlefield measured in pixels. |
| double | [**getBattleFieldWidth**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getBattleFieldWidth())() Returns the width of the current battlefield measured in pixels. |
| double | [**getEnergy**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getEnergy())() Returns the robot's current energy. |
| double | [**getGunHeading**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getGunHeading())() Returns the direction that the robot's gun is facing, in degrees. |
| double | [**getGunHeat**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getGunHeat())() Returns the current heat of the gun. |
| double | [**getHeading**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getHeading())() Returns the direction that the robot's body is facing, in degrees. |
| int | [**getOthers**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getOthers())() Returns how many opponents that are left in the current round. |
| double | [**getRadarHeading**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getRadarHeading())() Returns the direction that the robot's radar is facing, in degrees. |
| long | [**getTime**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getVelocity())() Returns the velocity of the robot measured in pixels/turn. |
| double | [**getX**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getX())() Returns the X position of the robot. (0,0) is at the bottom left of the battlefield. |
| double | [**getY**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#getY())() Returns the Y position of the robot. (0,0) is at the bottom left of the battlefield. |
| void | [**onBulletHit**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#onBulletHit(robocode.BulletHitEvent))([BulletHitEvent](file:///C%3A%5C%5Crobocode%5C%5Cjavadoc%5C%5Crobocode%5C%5CBulletHitEvent.html%22%20%5Co%20%22class%20in%20robocode) event) This method is called when one of your bullets hits another robot. |
| void | [**onBulletHitBullet**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#onBulletHitBullet(robocode.BulletHitBulletEvent))([BulletHitBulletEvent](file:///C%3A%5C%5Crobocode%5C%5Cjavadoc%5C%5Crobocode%5C%5CBulletHitBulletEvent.html%22%20%5Co%20%22class%20in%20robocode) event) This method is called when one of your bullets hits another bullet. |
| void | [**onHitByBullet**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#onHitByBullet(robocode.HitByBulletEvent))([HitByBulletEvent](file:///C%3A%5C%5Crobocode%5C%5Cjavadoc%5C%5Crobocode%5C%5CHitByBulletEvent.html%22%20%5Co%20%22class%20in%20robocode) event) This method is called when your robot is hit by a bullet. |
| void | [**onHitRobot**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#onHitRobot(robocode.HitRobotEvent))([HitRobotEvent](file:///C%3A%5C%5Crobocode%5C%5Cjavadoc%5C%5Crobocode%5C%5CHitRobotEvent.html%22%20%5Co%20%22class%20in%20robocode) event) This method is called when your robot collides with another robot. |
| void | [**onHitWall**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#onHitWall(robocode.HitWallEvent))([HitWallEvent](file:///C%3A%5C%5Crobocode%5C%5Cjavadoc%5C%5Crobocode%5C%5CHitWallEvent.html%22%20%5Co%20%22class%20in%20robocode) event) This method is called when your robot collides with a wall. |
| void | [**onScannedRobot**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#onScannedRobot(robocode.ScannedRobotEvent))([ScannedRobotEvent](file:///C%3A%5C%5Crobocode%5C%5Cjavadoc%5C%5Crobocode%5C%5CScannedRobotEvent.html%22%20%5Co%20%22class%20in%20robocode) 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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#resume())() Immediately resumes the movement you stopped by [Robot.stop()](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#stop()), if any. |
| void | [**scan**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#scan())() Scans for other robots. |
| void | [**setAdjustGunForRobotTurn**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#setAdjustGunForRobotTurn(boolean))(boolean independent) Sets the gun to turn independent from the robot's turn. |
| void | [**setAdjustRadarForGunTurn**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#setAdjustRadarForGunTurn(boolean))(boolean independent) Sets the radar to turn independent from the gun's turn. |
| void | [**setAdjustRadarForRobotTurn**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#setAdjustRadarForRobotTurn(boolean))(boolean independent) Sets the radar to turn independent from the robot's turn. |
| void | [**stop**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#stop())() Immediately stops all movement, and saves it for a call to [Robot.resume()](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#resume()). |
| void | [**turnGunLeft**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#turnGunLeft(double))(double degrees) Immediately turns the robot's gun to the left by degrees. |
| void | [**turnGunRight**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#turnGunRight(double))(double degrees) Immediately turns the robot's gun to the right by degrees. |
| void | [**turnLeft**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#turnLeft(double))(double degrees) Immediately turns the robot's body to the left by degrees. |
| void | [**turnRadarLeft**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#turnRadarLeft(double))(double degrees) Immediately turns the robot's radar to the left by degrees. |
| void | [**turnRadarRight**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.html#turnRadarRight(double))(double degrees) Immediately turns the robot's radar to the right by degrees. |
| void | [**turnRight**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CRobot.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.html#getDistance())() Returns the distance to the robot (your center to his center). |
| double | [**getEnergy**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.html#getEnergy())() Returns the energy of the robot. |
| double | [**getHeading**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.html#getHeading())() Returns the heading of the robot, in degrees (0 <= getHeading() < 360) |
| double | [**getHeadingRadians**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.html#getName())() Returns the name of the robot. |
| double | [**getVelocity**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CScannedRobotEvent.html#getVelocity())() Returns the velocity of the robot. |

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| **HitByBulletEvent Method Summary (You’ve been shot!)** |
| double | [**getBearing**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitByBulletEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitByBulletEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitByBulletEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitByBulletEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitByBulletEvent.html#getName())() Returns the name of the robot that fired the bullet. |
| double | [**getPower**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitByBulletEvent.html#getPower())() Returns the power of this bullet. |
| double | [**getVelocity**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitByBulletEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitRobotEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitRobotEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitRobotEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitRobotEvent.html#getName())() Returns the name of the robot you hit. |
| boolean | [**isMyFault**](file:///C%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitRobotEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitWallEvent.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%3A%5Crobocode%5Cjavadoc%5Crobocode%5CHitWallEvent.html#getBearingRadians())() Returns the bearing to the wall you hit, relative to your robot's heading, in radians (-PI <= getBearingRadians() < PI) |

