**Functions port\_object.h**

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| **Syntax** | void configureSensor(sensor& target) |
| **Purpose** | configure the ports for a sensor |
| **Entry Conditions** | * target - the target sensor |
| **Code**  **Example** | //configure the sonar sensor  configureSensor(sonar); |

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| **Syntax** | void configureSensor(sensorArray& target) |
| **Purpose** | configure the ports for a sensor array |
| **Entry Conditions** | * target - the target sensor array |
| **Code**  **Example** | //configure the sonar sensor array  configureSensor(sonarArray); |

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| **Syntax** | void resetSensor(sensor& target) |
| **Purpose** | reset the target sensor clearing all sensor info |
| **Entry Conditions** | * target - the target sensor |
| **Code**  **Example** | //reset the encoder sensor  resetSensor(encoder); |

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| **Syntax** | void resetSensor(sensorArray& target) |
| **Purpose** | reset the sensors in the target array clearing all sensor info |
| **Entry Conditions** | * target - the target sensor array |
| **Code**  **Example** | //reset a pneumatic solenoid array  resetSensor(catapult); |

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| **Syntax** | void assignSensor() |
| **Purpose** | assign no sensors |
| **Entry Conditions** | NONE |
| **Code**  **Example** | //assign no sensors, do nothing.  assignSensor(); |

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| **Syntax** | void assignSensor(sensor& target, int type, int portMain) |
| **Purpose** | assign one port for a sensor |
| **Entry Conditions** | * target - the target sensor * type - the sensor type * portMain - the port to which the sensor is hooked up to |
| **Code**  **Example** | //create a potentiometer sensor  sensor pot;  //assign the potentiometer sensor  assignSensor(pot, sensorPotentiometer, in1); |

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| **Syntax** | void assignSensor(sensor& target, int type, int portMain,  int portSub1) |
| **Purpose** | assign two ports for a sensor |
| **Entry Conditions** | * target - the target sensor * type - the sensor type * portMain - the port to which the sensor is hooked up to * portSub1 - the first supporting port for which the sensor is hooked up to |
| **Code**  **Example** | //create encoder sensor  sensor encoder;  //assign the encoder  assignSensor(encoder, sensorQuadEncoder, dgtl1, dgtl2); |

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| **Syntax** | void assignSensor(sensor& target, int type, int portMain,  int portSub1, int portSub2) |
| **Purpose** | assign three ports for a sensor |
| **Entry Conditions** | * target - the target sensor * type - the sensor type * portMain - the port to which the sensor is hooked up to * portSub1 - the first supporting port for which the sensor is hooked up to * portSub2 - the second supporting port for which the sensor is hooked up to |
| **Code**  **Example** | //create an accelerometer sensor  sensor accel;  //assing x, y and z accelerometers  assignSensor(accel, sensorAccelerometer, in1, in2, in3) |

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| **Syntax** | void assignSensorArray() |
| **Purpose** | assign no sensors in the sensor array |
| **Entry Conditions** | NONE |
| **Code**  **Example** | //assign no sensors to the sensor array  assignSensorArray(); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one) |
| **Purpose** | one sensor to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensor  sensor s1;  //assign sensor to array  assignSensorArray(new, s1); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one,  sensor two) |
| **Purpose** | two sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  //assign sensors to array  assignSensorArray(new, s1, s2); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one,  sensor two, sensor three) |
| **Purpose** | three sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  //assign sensors to array  assignSensorArray(new, s1, s2, s3); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four) |
| **Purpose** | four sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five) |
| **Purpose** | five sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one,  sensor two, sensor three, sensor four, sensor five,  sensor six) |
| **Purpose** | six sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven) |
| **Purpose** | seven sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight); |
| **Purpose** | eight sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine); |
| **Purpose** | nine sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten); |
| **Purpose** | ten sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven); |
| **Purpose** | eleven sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve); |
| **Purpose** | twelve sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen); |
| **Purpose** | thirteen sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen,  sensor fourteen); |
| **Purpose** | fourteen sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array * *fourteen* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  sensor s14;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13, s14); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen,  sensor fourteen, sensor fifteen); |
| **Purpose** | fifteen sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array * *fourteen* - sensor to be added to the sensor array * *fifteen* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  sensor s14;  sensor s15;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13, s14, s15); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen,  sensor fourteen, sensor fifteen, sensor sixteen); |
| **Purpose** | sixteen sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array * *fourteen* - sensor to be added to the sensor array * *fifteen* - sensor to be added to the sensor array * *sixteen* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  sensor s14;  sensor s15;  sensor s16;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13, s14, s15, s16); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen,  sensor fourteen, sensor fifteen, sensor sixteen,  sensor seventeen); |
| **Purpose** | seventeen sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array * *fourteen* - sensor to be added to the sensor array * *fifteen* - sensor to be added to the sensor array * *sixteen* - sensor to be added to the sensor array * *seventeen* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  sensor s14;  sensor s15;  sensor s16;  sensor s17;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13, s14, s15, s16, s17); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen,  sensor fourteen, sensor fifteen, sensor sixteen, sensor seventeen, sensor eighteen); |
| **Purpose** | eighteen sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array * *fourteen* - sensor to be added to the sensor array * *fifteen* - sensor to be added to the sensor array * *sixteen* - sensor to be added to the sensor array * *seventeen* - sensor to be added to the sensor array * *eighteen* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  sensor s14;  sensor s15;  sensor s16;  sensor s17;  sensor s18;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13, s14, s15, s16, s17, s18); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen,  sensor fourteen, sensor fifteen, sensor sixteen,  sensor seventeen, sensor eighteen, sensor nineteen); |
| **Purpose** | nineteen sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array * *fourteen* - sensor to be added to the sensor array * *fifteen* - sensor to be added to the sensor array * *sixteen* - sensor to be added to the sensor array * *seventeen* - sensor to be added to the sensor array * *eighteen* - sensor to be added to the sensor array * *nineteen* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  sensor s14;  sensor s15;  sensor s16;  sensor s17;  sensor s18;  sensor s19;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13, s14, s15, s16, s17, s18, s19); |

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| **Syntax** | void assignSensorArray(sensorArray& target, sensor one, sensor two, sensor three, sensor four, sensor five, sensor six, sensor seven, sensor eight, sensor nine, sensor ten,  sensor eleven, sensor twelve, sensor thirteen,  sensor fourteen, sensor fifteen, sensor sixteen,  sensor seventeen, sensor eighteen, sensor nineteen,  sensor twenty); |
| **Purpose** | twenty sensors to assign in the sensor array |
| **Entry Conditions** | * *target* - the target sensor array * *one* - sensor to be added to the sensor array * *two* - sensor to be added to the sensor array * *three* - sensor to be added to the sensor array * *four* - sensor to be added to the sensor array * *five* - sensor to be added to the sensor array * *six* - sensor to be added to the sensor array * *seven* - sensor to be added to the sensor array * *eight* - sensor to be added to the sensor array * *nine* - sensor to be added to the sensor array * *ten* - sensor to be added to the sensor array * *eleven* - sensor to be added to the sensor array * *twelve* - sensor to be added to the sensor array * *thirteen* - sensor to be added to the sensor array * *fourteen* - sensor to be added to the sensor array * *fifteen* - sensor to be added to the sensor array * *sixteen* - sensor to be added to the sensor array * *seventeen* - sensor to be added to the sensor array * *eighteen* - sensor to be added to the sensor array * *nineteen* - sensor to be added to the sensor array * *twenty* - sensor to be added to the sensor array |
| **Code**  **Example** | //create sensor array  sensorArray new;  //create sensors  sensor s1;  sensor s2;  sensor s3;  sensor s4;  sensor s5;  sensor s6;  sensor s7;  sensor s8;  sensor s9;  sensor s10;  sensor s11;  sensor s12;  sensor s13;  sensor s14;  sensor s15;  sensor s16;  sensor s17;  sensor s18;  sensor s19;  sensor s20;  //assign sensors to array  assignSensorArray(new, s1, s2, s3, s4, s5, s6, s7, s8, s9, s10, s11, s12, s13, s14, s15, s16, s17, s18, s19, s20); |

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| **Syntax** | void resetMotorSystem(motorSystem& target) |
| **Purpose** | reset the motors in the motor system, motor system no longer has any motors assigned to it. |
| **Entry Conditions** | * target - the target motor system |
| **Code**  **Example** | //reset a motor system  resetMotorSystem(rightDrive); |

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| **Syntax** | void assignMotorSystem() |
| **Purpose** | assign no motors to the new motor system |
| **Entry Conditions** | NONE |
| **Code**  **Example** | //There are no motors for the new motor system  assignMotorSystem(); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one) |
| **Purpose** | assign one motor to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign one motor to the new motor system  assignMotorSystem(new, port1); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two); |
| **Purpose** | assign two motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign two motors to the new motor system  assignMotorSystem(new, port1, port2); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three) |
| **Purpose** | assign three motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign three motors to the new motor system  assignMotorSystem(new, port1, port2, port3); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three, int four) |
| **Purpose** | assign four motors to the intake system to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system * *four* - the fourth motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign four motors to the new motor system  assignRightDriveMotors(new, port1, port2, port3, port4); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three, int four, int five) |
| **Purpose** | assign five motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system * *four* - the fourth motor port in the system * *five* - the fifth motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign five motors to the intake to the new motor system  assignMotorSystem(new, port1, port2, port3, port4, port5); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three, int four, int five, int six) |
| **Purpose** | assign six motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system * *four* - the fourth motor port in the system * *five* - the fifth motor port in the system * *six* - the sixth motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign six motors to the new motor system  assignMotorSystem(new, port1, port2, port3, port4,  port5, port6); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three, int four, int five, int six, int seven) |
| **Purpose** | assign seven motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system * *four* - the fourth motor port in the system * *five* - the fifth motor port in the system * *six* - the sixth motor port in the system * *seven* - the seventh motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign one motors to the new motor system  assignMotorSystem(new, port1, port2, port3, port4,  port5, port6, port7); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three, int four, int five, int six, int seven, int eight) |
| **Purpose** | assign eight motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system * *four* - the fourth motor port in the system * *five* - the fifth motor port in the system * *six* - the sixth motor port in the system * *seven* - the seventh motor port in the system * *eight* - the eighth motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign eight motors to the new motor system  assignMotorSystem(new, port1, port2, port3, port4,  port5, port6, port7, port8); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three, int four, int five, int six, int seven, int eight, int nine) |
| **Purpose** | assign nine motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system * *four* - the fourth motor port in the system * *five* - the fifth motor port in the system * *six* - the sixth motor port in the system * *seven* - the seventh motor port in the system * *eight* - the eighth motor port in the system * *nine* - the ninth motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign nine motors to the new motor system  assignMotorSystem(new, port1, port2, port3, port4,  port5, port6, port7, port8, port9); |

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| **Syntax** | void assignMotorSystem(motorSystem& target, int one, int two, int three, int four, int five, int six, int seven, int eight, int nine, int ten) |
| **Purpose** | assign ten motors to the new motor system |
| **Entry Conditions** | * *one* - the first motor port in the system * *two* - the second motor port in the system * *three* - the third motor port in the system * *four* - the fourth motor port in the system * *five* - the fifth motor port in the system * *six* - the sixth motor port in the system * *seven* - the seventh motor port in the system * *eight* - the eighth motor port in the system * *nine* - the ninth motor port in the system * *ten* - the tenth motor port in the system |
| **Code**  **Example** | //create new motor system  motorSystem new;  //assign ten motors to the new motor system  assignMotorSystem(new, port1, port2, port3, port4,  port5, port6, port7, port8, port9, port10); |