CST112--Algorithms Page 1

## 1 Processing: Algorithms CST112 2 Algorithms • In programming, an algorithm is the series of steps (statements) required to solve a problem and to perform a task (as per the following): 1. Develop an idea 2. Break the idea into smaller manageable parts 3. Work out the algorithm for each part 4. Write the code for each part 5. Work out the algorithm for all the parts together 6. Integrate the code for all the parts together 37 The dist() Function • Using the Euclidean formula for a right triangle, given the locations of a<sub>1</sub> and b<sub>2</sub>, calculates c •Given that $a^2 + b^2 = c^2$ • Format: dist(xOfA<sub>1</sub>, yOfA<sub>1</sub>, xOfB<sub>2</sub>, yOfB<sub>2</sub>) 38 Accessing an Object's Fields (Page 1) • The fields of an instantiated object can be accessed and updated using "dot notation: Format: objectName.fieldName 39 Accessing an Object's Fields (Page 2) • Example (the class definitions—Bullet): class Bullet { float x; float y; 40 Accessing an Object's Fields (Page 3) • Example (the class definitions—Rock): class Rock float x; float y; 41 Accessing an Object's Fields (Page 4) • Example (the object declaration and instantiation): Bullet myBullet: Rock myRock; void setup() { myBullet = new Bullet(); myRocket = new Rocket(); 42 Accessing an Object's Fields (Page 5) • Example (accessing the fields): void display()

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if (myBullet.x == myRock.x)
}
54 The millis() Function
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- Returns the amount of time measured in milliseconds since the sketch began to
- A millisecond is 1/1000<sup>th</sup> of a second