User Input

• Import the java.util.Scanner class
• Create a Scanner object
• What does this code do?
  import java.util.Scanner;
  public class UserInput {
      public static void main(String[] args) {
          Scanner input = new Scanner(System.in);
          System.out.println(input.nextInt());
      }
  }

• What if we want to use the value read from user?

How do we read into a variable?

• Declare a variable
• Read value from user
• Assign variable value of input
• How do we do this?
  import java.util.Scanner;
  public class UserInput {
      public static void main(String[] args) {
          Scanner input = new Scanner(System.in);
          int x = input.nextInt();
          System.out.println(x);
      }
  }
What all can you read?

- Useful Scanner methods:
  - next()
  - nextInt()
  - nextDouble()
  - nextBoolean()
  - nextByte()

Decisions in Life

- What is a decision?
- When do we make decisions?
- How do we make decisions?
  
  If it is sunny today
  then I’ll go to the beach and fly a kite
  Else if it is raining today
  then I’ll stay inside and read a book
  Else if it is snowing
  then I’ll go to the mountains to ski

Decisions within Decisions

- What happens if there is no wind at the beach?
- How does this change our decisions?
  
  If it is sunny today
  then I’ll go to the beach
  if it is windy at the beach
  then I’ll fly a kite
  if it is not windy at the beach
  then I’ll walk on the shore
Flow chart for decisions

Decisions in our programs

- Use an if/else
  
  if (<test>) {
    <statement>;
    ...
    <statement>;
  }
  else {
    <statement>;
    ...
  }

What is the <test>?

<expression> <relational op> <expression>

- Relational Ops
  
  == - equal to
  != - not equal to
  < - less than
  > - greater than
  <= - less than or equal to
  >= - greater than or equal to
Examples
• if(4 == 4)
• if((2+1) == 4)
• if(4.1 != 4)
• if(3 <= 4)
• if(4 >= 4)
• if(3.5 > 4)
• if(4 < 4)
• if(3+2*2 > 9)
• if((3+2)*2 > 9)

Java If/Else Syntax...
if( x > y) {
    System.out.println("X is greater than Y");
} else {
    System.out.println("X is less than Y");
}  
• When does this logic fail?

Java If/Else...
if( x > y) {
    System.out.println("X is greater than Y");
} else if( x < y) {
    System.out.println("X is less than Y");
} else {
    System.out.println("X is equal to Y");
}