Arrays, Conditionals, and Loops

- Arrays:
  - String customer = new String("Pablo Sanchez");
  - String inputBuffer = new String[100];  //string contains up to 100 characters
  - String sequence = new String[10];  sequence[2] = "c";
  - int bufferLength = inputBuffer.length;  // returns 100
  - int[] counter = new int[2];  // can hold two integers
    or
  - int
  - counter[ ] = new int[2];
- Example1:
  Scanner sc = new Scanner(System.in);
  double[ ] weeklySales = new double[10];
  double totalSales = 0;
  for (int i = 0; i<weeklySales.length;i++)
  {
    System.out.println("Please enter weekly sales: ");
    weeklySales[i] = sc.nextDouble();
    totalSales += weeklySales[i];
  }
Arrays, Conditionals, and Loops - continued

- String[ ] names = {“John”,”Sue”,”Marvin”,”Andre”,”Pedro”}; //declare and initialize

Example2:
    Scanner sc = new Scanner(System.in);
    int size;
    int[ ] dataPoints;
    System.out.println(“Enter number of data points: “);
    size = sc.nextInt();
    dataPoints = new int[size];

Example3:
    int i = setData(dataPoints);
    :
    :
    private int setData(int[ ] data)
    {
        :
    }
Arrays, Conditionals, and Loops - continued

- Example 4:

```java
int[] d = getData();

private int[] getData()
{
    return data;
}
```

- Example 5:

```java
Student[] student = new Student[30];
for (int i = 0; i < student.length; i++)
{
    student[i] = new Student("System.out.println("Enter name: ");
}
for (Student s : student) // reads “for each Student object in student array
{
    System.out.println(s.getName());
}
```

- Multidimensional arrays:

```java
int[][] velocity = new int[10][10];
velocity[0][0] = 1;
velocity[0][1] = 3;
velocity[0][2] = 9;
```
if conditional:
    Ex1.    int height = x < y ? x : y;

Ex2.    if (x < y)
            height = x;
        else height = y;

Ex3.    if (number == 3)
            number++;
        else if (number == 4)
            number = number * 2;
        else if (number == 5)
            number = number / 3;
Arrays, Conditionals, and Loops - continued

- Switch:
  Ex. 
  ```java
  switch (number)
  {
  case 3:
    number++;
    break;
  case 4:
    number = number*2;
    break;
  case 5:
    number = number/3;
    break;
  case default:
    System.out.println("incorrect value for" + number);
  }
  ```

- For Loop:
  Ex. 
  ```java
  for (int i = 0; i < arr.length; i++)
  arr[i] = number++;
  ```

- While Loop:
  Ex. 
  ```java
  while ((ch != ‘q’) && (ch != ‘\t’))
  ch = input.read();
  ```
Arrays, Conditionals, and Loops - continued

• do…while Loop:

  Ex1. int x = 0;
don {System.out.println("continue loop… counter = " + x);
x++;
} while (x <=9);

  Ex2. do {
      if (arr1[count] == 0) {
          break;
      }
      arr2[count] = arr1[count];
count++;
  } while (count < arr1.length);

• Unlike break, which is used to terminate the loop, continue is used to restart the loop at the next iteration.