Computer Programming Using JAVA
COP 2800 - Fall 2016

Lecture 5: Java Control Statement cont.

By Ahmed E. Khaled
Recap to previous lecture!

- What is a Java block?
- What is a control statement and the different types?
- What are Boolean expressions and Logical operations?
Lecture 5 : Java Control statement Cont.

- Switch statements.
- Get Input from user.
Switch Statements

• A switch statement executes statements based on the value of a variable or an expression.

• The if statement makes selections based on a single true or false condition.
Int status = get value from user
switch (status) {
    case 0:
        user entered value 0
        break;
    case 1:
        user entered value 1
        break;
    case 2:
        user entered value 2
        Break;
    default:
        print invalid value entered
}
• When the value in a case statement *matches* the value of the switch-expression, the statements starting from this case are executed until either a break statement or the end of the switch statement is reached.

• The default case, *which is optional*, can be used to perform actions when none of the specified cases matches the switch-expression.

• The keyword *break* ends the switch statement.
char input = 'a';
switch (input) {
    case 'a':
        System.out.println("you inserted " + input);
        break;
    case 'b':
        System.out.println("you inserted " + input);
        break;
    case 'c':
        System.out.println("you inserted " + input);
        break;
    default:
        System.out.println("you inserted unexpected input");
}
Build small program

• Build program that defines user age, and then display a message you are in your early/mid/late twenties/thirties (use if-else and nested if).

• Build program that display the name of the day, when the user enter the day in number (use switch and use if-else).
How to get input from user?

*Scanner class* in java.util allows user to read values of various types.

This class provides two particularly useful methods: one takes an *InputStream object* and the other takes a FileReader.

```java
Scanner in = new Scanner(System.in);
```
package welcomejava;

import java.util.Scanner;

public class WelcomeJava {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        System.out.println("Please insert a number");
        int number = in.nextInt();
        System.out.println("You inserted : " + number);
    }
}

run:
Please insert a number
3
You inserted : 3
BUILD SUCCESSFUL (total time: 5 seconds)
The Scanner looks for tokens in the input (series of characters that ends with what Java calls whitespace).

```java
int number = in.nextInt();
float real = in.nextFloat();
long number2 = in.nextLong();
double real2 = in.nextDouble();
String string = in.nextLine();
```
import java.util.Scanner;
import java.io.*;

public class NumericInput {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int integer;
        System.out.println("Enter your age");
        integer = in.nextInt();

        String firstname;
        System.out.println("Enter your name");
        firstname = in.nextLine();

        double rate; // The annual interest rate.
        System.out.print("Enter the initial investment: ");
        rate = in.nextDouble();
    }
}
Build small program

• Ask user for length and width then calculate area and perimeter of a rectangle after you check the correct inputs’ ranges.

• Make simple calculator, that performs add or subtract or multiply operations on user input numbers (two numbers).