

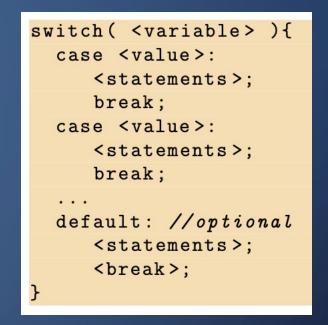
SWITCH STATEMENTS

zyBook 3.14

Oracle - Java Tutorial: The switch Statement

SWITCH STATEMENTS

- Control the flow of your program
- May be used in place of complex if-else blocks
- switch statements can be cleaner and easier to maintain that if-else blocks
- If the calculated value does not match any listed values then no case code is executed, unless the optional default case is implemented.
- Remember to include break after the statements for each case!!! (unless you explicitly intend to fall through)
- Can only switch on variables of type: byte, short, char, int, enum types,
 String objects (Java 7 and later)



```
$ javac -d bin -cp bin src/RaceResults.java
   import java.util.Scanner;
   public class RaceResults {
                                                       $ java -cp bin RaceResults
       public static void main(String[] args) {
                                                       Enter place (int): 1
           Scanner in = new Scanner(System.in);
          System.out.print("Enter place (int): ");
                                                       First Place!
          int place = in.nextInt();
          if (place == 1) {
                                                       $ java -cp bin RaceResults
              System.out.println("First Place!");
8
                                                       Enter place (int): 3
          } else if (place == 2) {
                                                       Third Place!
              System.out.println("Second Place!");
10
11
          } else if (place == 3) {
12
              System.out.println("Third Place!");
                                                       $ java -cp bin RaceResults
13
          } else {
                                                       Enter place (int): 10
14
              System.out.println("Finisher!");
                                                       Finisher!
15
16
17 }
  import java.util.Scanner;
                                                       $ javac -d bin -cp bin src/RaceResultsSwitch.java
  public class RaceResultsSwitch {
       public static void main(String[] args) {
                                                       $ java -cp bin RaceResultsSwitch
           Scanner in = new Scanner(System.in);
                                                       Enter place (int): 1
           System.out.print("Enter place (int): ");
                                                       First Place!
           int place = in.nextInt();
           switch (place) {
               case 1:
                                                       $ java -cp bin RaceResultsSwitch
                  System.out.println("First Place!");
                                                       Enter place (int): 3
10
                  break;
                                                       Third Place!
               case 2:
12
                  System.out.println("Second Place!");
                                                       $ java -cp bin RaceResultsSwitch
13
                  break;
                                                       Enter place (int): 10
14
               case 3:
15
                  System.out.println("Third Place!");
                                                      Finisher!
16
                  break;
17
               default:
18
                  System.out.println("Finisher!");
19
                  break;
20
21
```

CASES CANNOT BE RANGES!

```
import java.util.Scanner;
2
   public class RaceResultsMedalInvalid {
       public static void main(String[] args) {
           Scanner in = new Scanner(System.in);
           System.out.print("Enter place (int): ");
          int place = in.nextInt();
           switch (place) {
              case <=3:
                  System.out.println("You earned a medal!");
10
11
                  break;
12
               default:
13
                   System.out.println("You did not earn a medal.");
14
                  break;
15
16
17
   $ javac -d bin -cp bin src/RaceResultsMedalInvalid.java
   src/RaceResultsMedalInvalid.java:9: error: illegal start of type
                 case <=3:
   src/RaceResultsMedalInvalid.java:9: error: ';' expected
                 case <3:
   2 errors
```

```
import java.util.Scanner;
   public class RaceResultsMedal {
       public static void main(String[] args) {
           Scanner in = new Scanner(System.in);
           System.out.print("Enter place (int): ");
           int place = in.nextInt();
           switch (place) {
              case 1:
10
              case 2:
11
              case 3:
12
                  System.out.println("You earned a medal!");
13
                  break;
14
              default:
15
                  System.out.println("You did not earn a medal.");
16
                  break;
17
18
19 }
   $ javac -d bin -cp bin src/RaceResultsMedal.java
   $ java -cp bin RaceResultsMedal
   Enter place (int): 1
   You earned a medal!
   $ java -cp bin RaceResultsMedal
   Enter place (int): 3
   You earned a medal!
   $ java -cp bin RaceResultsMedal
   Enter place (int): 10
   You did not earn a medal.
```

SWITCH STATEMENT REMINDERS

- Cannot use ranges as cases
- Can only switch on byte, short, char, int, enum types, String objects
- Values are matched exactly. For example: uppercase values will not match to lowercase values
- Remember your break statements!