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Fundamentals of Programing I – CSIT 111_04
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Lab 04 Report

Exercise 1: Playing with cards

Write a class that defines an enumerated type named ***Rank*** with values `ace, two, three, four, five, six, seven, eight, nine, ten, jack, queen, king`. The main method should do the following:

1. Declare variables ***highCard***, ***faceCard***, ***card1***, and ***card2*** of type ***Rank.***

2. Assign ***highCard*** to be an `ace`, ***faceCard*** to be a `jack`, `queen` or `king` (your choice), and ***card1*** and ***card2*** to be two different numbered cards (`two` through `ten` - your choice).

3. Print a line, using the ***highCard*** and ***faceCard*** objects, in the following format: `A blackjack hand: ace and ....`
The faceCard variable should be printed instead of the dots.

4. Declare two variables ***card1Val*** and ***card2Val*** of type **int** and assign them the face value of your ***card1*** and ***card2*** objects. Use your ***card1*** and ***card2*** variables and the ordinal method associated with enumerated types. Remember that the face value of `two` is 2, `three` is 3, and so on so you need to make a slight adjustment to the ordinal value of the enumerated type.

5. Print two lines, using the ***card1*** and ***card2*** objects and the name method, as follows:
`A two card hand: (print card1 and card2)`
`Hand value: (print the sum of the face values of the two cards)`

Answer:

```
// ********************************************************************
// Cards.java
//
// A simple game of cards
// ********************************************************************
public class Cards {

   /* Defining an enumerated type at the class level */
   enum Rank {ace, two, three, four, five, six, seven, eight,
nine, ten, jack, queen, king};
```

```
   public static void main(String args[]) {

      /* Declaring the variables of type Rank and assigning
values to them */
      Rank highCard, faceCard, card1, card2;
      highCard = Rank.ace;
      faceCard = Rank.king;
      card1 = Rank.three;
      card2 = Rank.seven;

      /* Printing a statement using the previous variables */
      System.out.println("A black jack hand: " + highCard + "
and " + faceCard);

      /* Declaring variables and assigning the face value of the
cards to them */
      int card1Val, card2Val;
      card1Val = card1.ordinal()+1;
      card2Val = card2.ordinal()+1;

      /* Printing out the cards and their sum */
      System.out.println("A two card hand: " + card1 + " and " +
card2);
      System.out.println("Hand value: " + (card1Val +
card2Val));
   }
}
```

Exercise 2: Experimenting with the Integer Class

Write a program ***IntWrapper*** that uses the constants and methods of the Integer class to perform the following tasks. Be sure to clearly label your output and test your code for each task before proceeding.

1. Print the maximum and minimum possible Java integer values. Use the constants in the Integer class that hold these values — don't type in the numbers themselves. Note that these constants are static.
2. Prompt the user to enter two decimal integers, one per line. Use the **next** method of the Scanner class to read each of them in. (The next method returns a String so you need to store the values read in String variables, which may seem strange.) Now convert the strings to ints (use the appropriate method of the Integer class to do this), add them together, and print the sum.

Answer:

```
// ************************************************************
// intWrapper.java
//
// Utilizing some of the functions of the Integer Wrapper Class
// ************************************************************
import java.util.Scanner;

public class intWrapper {
   public static void main(String args[]) {

      /* Declaring the variable to store the min and max value
of an integer in JAVA then printing the values*/
      Integer age = new Integer(40);
      age = Integer.MAX_VALUE;
      System.out.println("The maximum possible JAVA" +
          " integer value is: " + age);
      age = Integer.MIN_VALUE;
      System.out.println("The minimum possible JAVA" +
          " integer value is: " + age);

      /* Creating a prompt for the user to enter two decimal
numbers and store them in String variables */
      Scanner scnr = new Scanner(System.in);
      String num1, num2;
      System.out.println("Enter an integer value: ");
      num1 = scnr.next();
      System.out.println("Enter another integer value: ");
      num2 = scnr.next();

      /* Converting the String variables to integer */
      int num11, num22;
      num11 = Integer.parseInt(num1);
      num22 = Integer.parseInt(num2);

      /* Adding the two numbers and printing the result */
      System.out.println("The sum of both numbers is: " +
          (num11 + num22));
   }
}
```