OBJECT ORIENTED PROGRAMMING PRACTICE WITH JAVA

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Chapter 1. Introduction to Java and Eclipse

I. Exercises with solutions

1. Install Eclipse

   https://www.tutorialspoint.com/eclipse/eclipse_installation.htm

2. Write a java program pirinting out: "Hello VKU freshmen!"

```java
public class DataPrinting {

    public static void main(String[] args) {

        System.out.println("Hello VKU freshmen");

    }
}
```

3. Write a java application allowing user to input a byte number N (32≤ N ≤255) and printing out its corresponding character.

```java
import java.util.*;

public class Exercise2 {
    public static void main(String[] args) {

        byte ASCIIcode;
        Scanner keyboard = new Scanner(System.in);
        System.out.print("Input an ASCII code: ");
        ASCIIcode = keyboard.nextByte();
        System.out.println("ASCII code "+ ASCIIcode + " is " + (char)ASCIIcode)

    }
}
```

```
Problems  @ Javadoc  Declaration  Console
<terminated> Exercise2 [Java Application] C:\Users\hcphap\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149\jre\bin\javaw.exe  (13:44:25, 18 thg 9, 2021 – 13:44:28)
Input an ASCII code: 65
ASCII code 65 is A
```
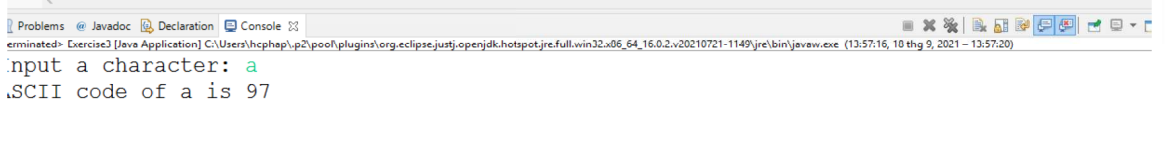
4. Write a java application allowing user to input a character and printing out its corresponding ASCII code.

```
1 import java.util.Scanner;
2 public class Exercise3 {
3     public static void main(String[] args) {
4         char ch;
5         Scanner keyboard = new Scanner(System.in);
6         System.out.print("Input a character: ");
7         ch = keyboard.next().charAt(0);
8         System.out.println("ASCII code of "+ ch + " is " + (byte)ch);
9     }
10 }
```
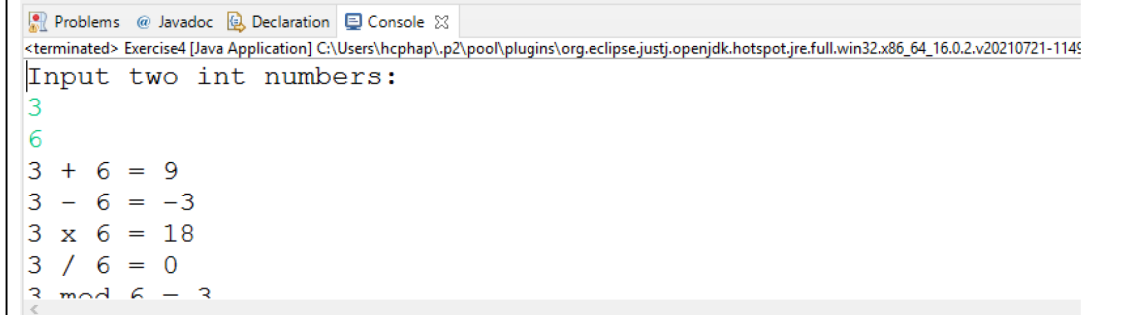
```
Problems  @ Javadoc  Declaration  Console
<terminated> Exercise3 [Java Application] C:\Users\hcphap\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x06_64_16.0.2.v20210721-1149\jre\bin\javaw.exe  (13:57:16, 10 thg 9, 2021 – 13:57:20)
Input a character: a
ASCII code of a is 97
```

5. Write a java application allowing user to input two integer numbers (*a* and *b*) then print out results of the following expressions: a+b; a-b; a*b; a/b; a%b

```
1 import java.util.*;
2 public class Exercise4 {
3     public static void main(String[] args) {
4         Scanner k=new Scanner(System.in);
5         System.out.println("Input two int numbers: ");
6         int a=k.nextInt();
7         int b=k.nextInt();
8         System.out.println(a+" + "+b+" = "+(a+b));
9         System.out.println(a+" - "+b+" = "+(a-b));
10        System.out.println(a+" x "+b+" = "+a*b);
11        System.out.println(a+" / "+b+" = "+a/b);
12        System.out.println(a+" mod "+b+" = "+a%b);
13    }
14 }
```

```
Problems  @ Javadoc  Declaration  Console
<terminated> Exercise4 [Java Application] C:\Users\hcphap\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1149
Input two int numbers:
3
6
3 + 6 = 9
3 - 6 = -3
3 x 6 = 18
3 / 6 = 0
3 mod 6 = 3
```

6. Write a java program allowing user to input a circle radius and calculating the circle's area and perimeter.

```java
1  import java.util.Scanner;
2  public class Exercise5 {
3
4    public static void main(String[] args) {
5        double r;
6        final float pi=3.1415f;
7        Scanner k=new Scanner(System.in);
8        System.out.print("Input radius r= ");
9        r=k.nextDouble();
10       System.out.println("Circle area =  "+r*r*pi);
11       System.out.println("Circle perimeter =  "+2*r*pi);
12       }
13 }
```

Problems @ Javadoc Declaration Console ⊠

<terminated> Exercise5 [Java Application] C:\Users\hcphap\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.2.v20210721-1

```
Input radius r= 5
Circle area =  78.53749990463257
Circle perimeter =  31.414999961853027
```

II. Do it yourself

1. Write a java application allowing user to input a number (n) then print out results of the following expressions: sin(n), cos(n), $\sqrt{n}$

    Hint: Use the Math class

2. Write a java application allowing user to input a string and printing out the number of characters of the given string.

    Hint: Use the String class and length method

3. Write a java program allowing user to input width and high of a rectangle and calculating the rectangle's area and perimeter.

4. Explorer the online document
    https://www.codecademy.com/learn/learn-java