

# CPW 142 Object-Oriented Programming I, Summer 2016

## Programming Assignment #2

This assignment will give you practice with organizing a program into methods and using a class constant.

Complete the program named **RocketShip.java** that produces the output shown below.

Use the starter code from Canvas for this assignment.

Do not change any code in **main**.

You can add any code you like to the other methods.

You are free to add any methods you like to reduce redundancy.

Use a class constant (e.g. **public static final int ROCKET\_SIZE = 3**)

to make it possible to change the size of the rocket.

### Notes for Programming Assignment 2

1. There should be a comment at the top of your file in the following form:  

```
// Your Name Here
// 1/20/16
// CPW 142
// Assignment #2
//
// This program will... fill in this comment yourself
```
2. There should only be one class, **RocketShip**.
3. Use one of the two approved methods for opening curly braces.  
See page 13 of textbook for examples of each style.
4. Apply the techniques explained in lecture and in Chapter 2 to use nested loops and the class constant to make the code work for size 3, 4, 5, or 6.
5. Comments should appear in the methods of **RocketShip** to explain what you are doing and why you are doing it the way you are doing it (you don't need to comment **main**).

For **ROCKET\_SIZE = 2**, the output should be:

```
/**\
//**\
///**\
+==*==*==*+
|.\/.\/.\/.
|\/\/\/\/\|
|\/\/\/\/\|
|.\/.\/.\/.
+==*==*==*+
|\/\/\/\/\|
|.\/.\/.\/.
|.\/.\/.\/.
|\/\/\/\/\|
+==*==*==*+
/**\
//**\
///**\
```

For **ROCKET\_SIZE = 3**, the output should be:

```
/**\
//**\
///**\
////**\
/////**\
+==*==*==*==*+
|.\/.\/.\/.\/.
|.\/.\/.\/.\/.
|\/\/\/\/\|
|\/\/\/\/\|
|.\/.\/.\/.\/.
|.\/.\/.\/.\/.
+==*==*==*==*+
|\/\/\/\/\|
|.\/.\/.\/.\/.
|.\/.\/.\/.\/.
|.\/.\/.\/.\/.
|\/\/\/\/\|
+==*==*==*==*+
/**\
//**\
///**\
////**\
/////**\
```

For **ROCKET\_SIZE** = 4, the output should be:

```

      /\
     /\
    /\
   /\
  /\
 /\
/\
+*+*+*+*+*+*+
|.../\...../\...|
|..\/\.....\/\..|
|.\/\\/\..\/\\/\..|
|\/\\/\\/\\/\\/\|
|\\/\\/\\/\\/\\/|
|.\/\\/\..\/\\/\..|
|..\/\\/\..\/\\/\..|
|...\/\.....\/\...|
+*+*+*+*+*+*+
|\\/\\/\\/\\/\\/\|
|.\/\\/\..\/\\/\..|
|..\/\\/\..\/\\/\..|
|...\/\.....\/\...|
|...\/\.....\/\...|
|...\/\.....\/\...|
|..\/\\/\..\/\\/\..|
|.\/\\/\..\/\\/\..|
|\/\\/\\/\\/\\/\|
+*+*+*+*+*+*+
      /\
     /\
    /\
   /\
  /\
 /\
/\

```

For **ROCKET\_SIZE** = 5, the output should be:

```

      /\
     /\
    /\
   /\
  /\
 /\
/\
+*+*+*+*+*+*+
|.../\...../\.....|
|..\/\.....\/\.....|
|.\/\\/\..\/\\/\..|
|\/\\/\\/\\/\\/\|
|\\/\\/\\/\\/\\/|
|.\/\\/\..\/\\/\..|
|..\/\\/\..\/\\/\..|
|...\/\.....\/\...|
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|...\/\.....\/\...|
|...\/\.....\/\...|
|..\/\\/\..\/\\/\..|
|.\/\\/\..\/\\/\..|
|\/\\/\\/\\/\\/\|
+*+*+*+*+*+*+
      /\
     /\
    /\
   /\
  /\
 /\
/\

```

### Extra Credit (10 extra points):

Do Programming Project 5 of Chapter 2, page 133.