

Design and Analysis of Algorithms

L02: Overview Java Basics & Programming

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Resources

- <https://introcs.cs.princeton.edu/java/IHello/>
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Programming Errors

- First programming goal: Identify errors
- Compile time errors
 - Easy to detect and fix
 - Don't ignore the warnings (can be more harmful)
- Runtime errors
 - Occurs when program runs (invoked)
 - Program performs an invalid operation, e.g.
 - Divide by zero
 - Accessing invalid memory location
 - Permissions violations etc.
- Logical errors
 - Most difficult to debug
 - Existence known when output is incorrect

Exercise I

- Write a program initials.java to print your initials using 9 rows with corresponding initial letter, e.g.

RRRRRR	PPPPP	RRRRR
RR RR	PP PP	RR RR
RR RRR	PP PPP	RR RRR
RR RRR	PP PPP	RR RRR
RR RR	PP PP	RR RR
RRRRR	PPPPP	RRRRR
RR RR	PP	RR RR
RR RR	PP	RR RR
RR RR PP		RR RR

Initials.java (RPR)

```
public class Initials {  
    public static void main(String[] args) {  
        System.out.println("RRRRR      PPPPP      RRRRR ");  
        System.out.println("RR      RR      PP      PP      RR      RR");  
        System.out.println("RR      RRR      PP      PPP      RR      RRR ");  
        System.out.println("RR      RRR      PP      PPP      RR      RRR ");  
        System.out.println("RR      RR      PP      PP      RR      RR ");  
        System.out.println("RRRRR      PPPPP      RRRRR ");  
        System.out.println("RR      RR      PP      RR      RR");  
        System.out.println("RR      RR      PP      RR      RR");  
        System.out.println("RR      RR      PP      RR      RR");  
    }  
}
```

Initials.java (RPR) v2

```
public class Initials {  
    public static void main(String[] args) {  
        System.out.println("RRRRR      PPPPP      RRRRR      ");  
        System.out.println("RR      RR      PP      PP      RR      RR      ");  
        System.out.println("RR      RRR      PP      PPP      RR      RRR      ");  
        System.out.println("RR      RRR      PP      PPP      RR      RRR      ");  
        System.out.println("RR      RR      PP      PP      RR      RR      ");  
        System.out.println("RRRRR      PPPPP      RRRRR      ");  
        System.out.println("RR      RR      PP      RR      RR      RR      ");  
        System.out.println("RR      RR      PP      RR      RR      RR      ");  
        System.out.println("RR      RR      PP      RR      RR      RR      ");  
    }  
}
```

Prog Exercise (Home)

- Write the program that takes initials as input and outputs them in the nine rows using the same letter.

Basic Java Quiz

- Answer the set of 25 questions on basics of java.
 - Quiz-01.pdf
- Answers to Quiz-01.