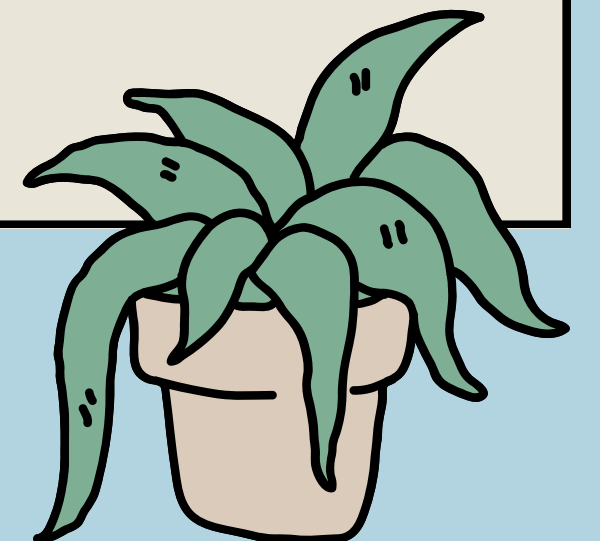
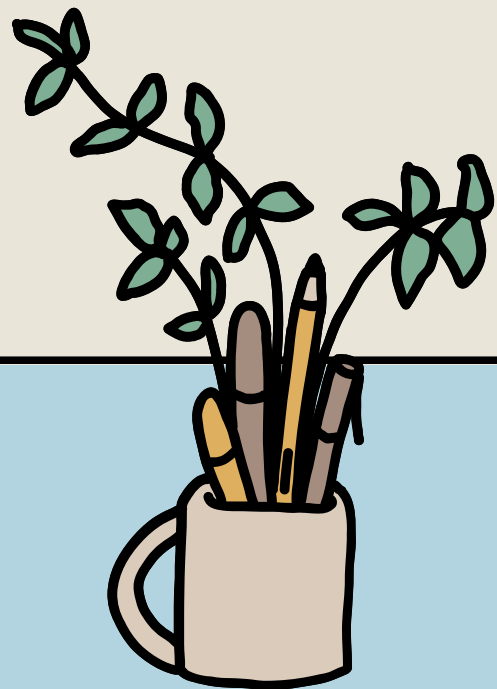
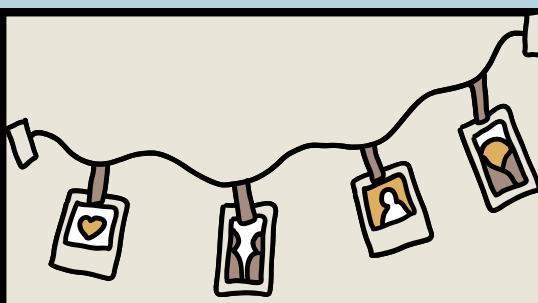


Class Agenda

Variables, DS & Patterns




Revision

- 
- Boiler code
 - Output
 - Variables
 - Data Types
 - Input
 - Type Conversion vs Type Casting vs Type Promotion

Boiler code

J JavaBasics.java 1 X

Users > arpangarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > ...

```
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6
7      }
8
9      
10
```

Output

JavaBasics.java 1 X

Users > arparg > Downloads > DSA > DSA java > Java Codes > JavaBasics.java > ...

1 import java.util.*;

2

3 public class JavaBasics{

4 Run | Debug

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

6 System.out.println(x:"Hello class");

7 }

8

9

10

PROBLEMS 1

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics

● arparg@Arpans-MacBook-Air ~ % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics

Hello class

○ arparg@Arpans-MacBook-Air Java Codes %

Variables

[illegible][illegible]

Variables

```
J JavaBasics.java 1 X
Users > arpangarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > JavaBasics > main(String[])
1  import java.util.*;
2
3  public class JavaBasics{
4      public static void main(String[] args) {
5          int a = 16;
6          String b = "May";
7
8          System.out.println(a+b);
9
10         a = 17;
11         System.out.println(a+b);
12     }
13 }
14
15
16
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
● arpangarg@Arpans-MacBook-Air ~ % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
Hello class
● arpangarg@Arpans-MacBook-Air Java Codes % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
16May
17May
○ arpangarg@Arpans-MacBook-Air Java Codes %
```

Data Types

J JavaBasics.java 2 X

Users > arpengarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > ...

```
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6          int a = 16;
7
8          String b = "May";
9          System.out.println(a+b);
10
11         int b = 14;
12         int c = 14;
13
14         a = 17;
15         System.out.println(a+b);
16
17     }
18 }
```

Data Types

J JavaBasics.java 1 ×

Users > arpengarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > JavaBasics > main(String[])

```
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6          int a = 16;
7
8          String b = "May";
9          System.out.println(a+b);
10
11         int c = 14;
12         System.out.println(a+c);
13
14         a = 17;
15         System.out.println(a+b);
16
17     }
18 }
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● arpengarg@Arpens-MacBook-Air Java Codes % cd "/Users/arpengarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
16May
30
17May
```


Input

J JavaBasics.java 2 ×

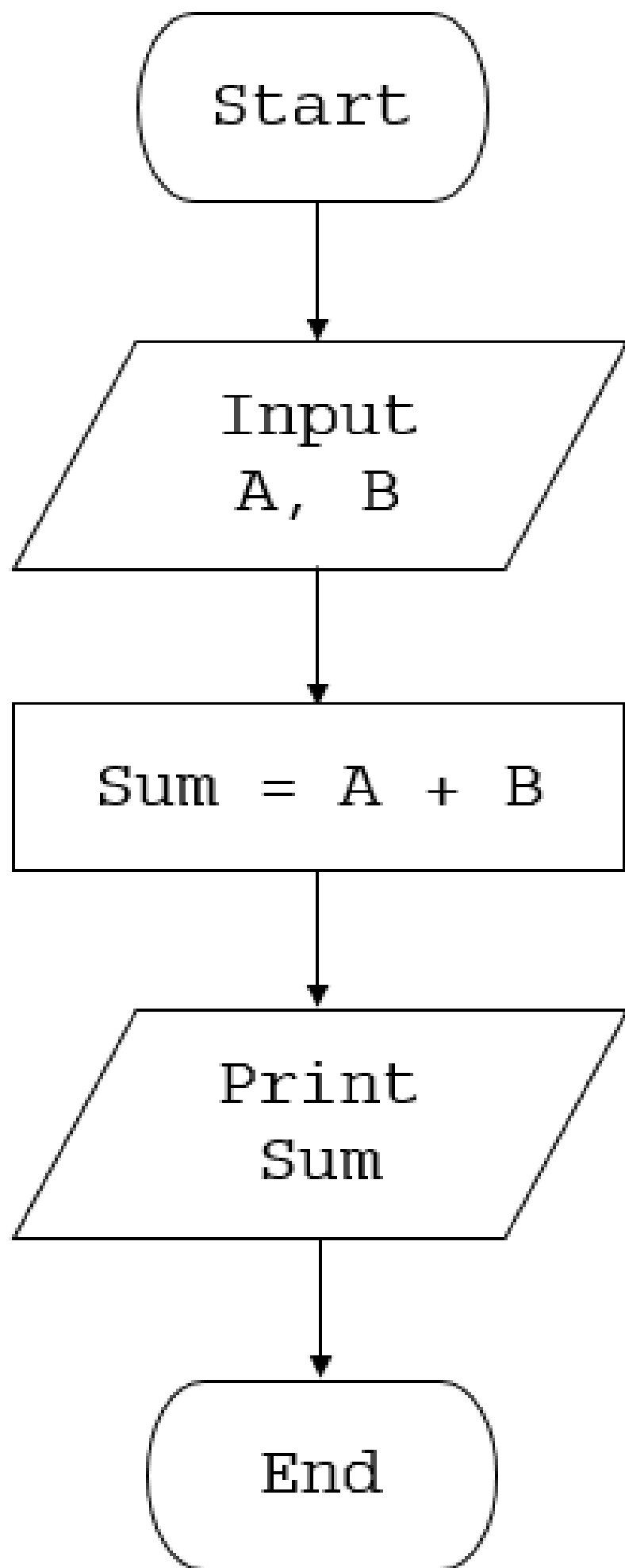
Users > arpangarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > JavaBasics > main(String[])

```
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6          Scanner sc = new Scanner(System.in);
7          int a;
8          String b;
9          String c;
10         a = sc.nextInt();
11         b = sc.next();
12         c = sc.nextLine();
13
14         System.out.println(a);
15         System.out.println(b);
16         System.out.println(c);
17
18     }
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● arpangarg@Arpans-MacBook-Air Java Codes % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
12 May It is
12
May
It is
○ arpangarg@Arpans-MacBook-Air Java Codes %
```

PRINT SUM OF 2 NUMBERS



Type conversion



```
J JavaBasics.java 1 x
Users > arpangarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > JavaBasics > main(String[])
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6          int a = 5;
7          long b;
8          b = a;
9          System.out.println(b);
10
11         a = b;
12         System.out.println(a);
13
14     }
15 }
16
17
18

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS
⊗ arpangarg@Arpans-MacBook-Air Java Codes % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
JavaBasics.java:10: error: incompatible types: possible lossy conversion from long to int
        a = b;
        ^
1 error
○ arpangarg@Arpans-MacBook-Air Java Codes %
```

Type casting



J JavaBasics.java 1 X

Users > arpengarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > JavaBasics > main(String[])

```
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6          int a = 5;
7          long b;
8          b = a;
9          System.out.println(b);
10         a = (int)b;
11         System.out.println(a);
12
13
14
15     }
16 }
17
18
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
• arpengarg@Arpens-MacBook-Air Java Codes % cd "/Users/arpengarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
5
5
```

Type promotion

J JavaBasics.java 1 X

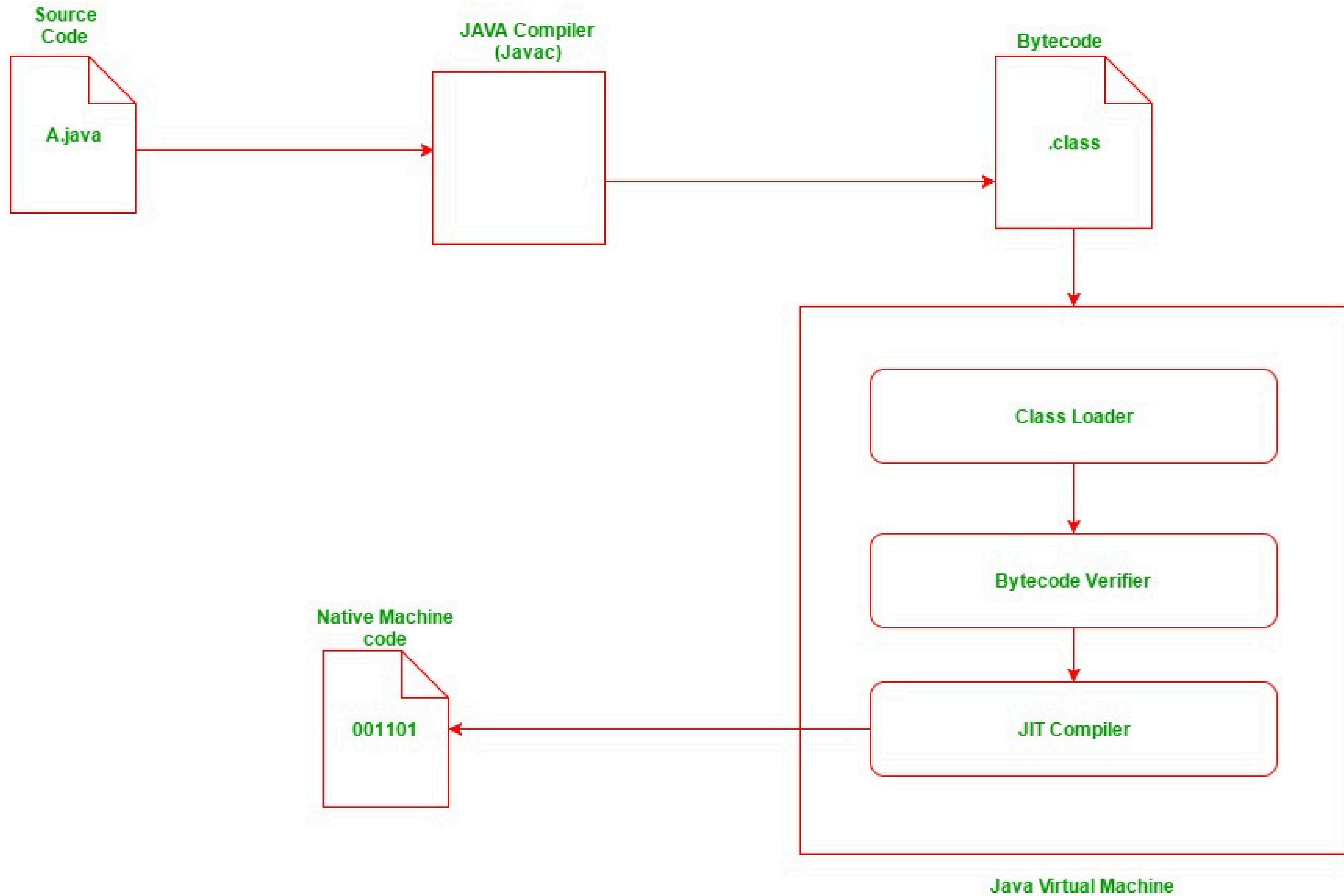
Users > arpangarg > Downloads > DSA > DSA java > Java Codes > J JavaBasics.java > JavaBasics > main(String[])

```
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6          int a = 16;
7
8          String b = "May";
9          System.out.println(a+b);
10
11         int c = 14;
12         System.out.println(a+c);
13
14         a = 17;
15         System.out.println(a+b);
16
17     }
18 }
```

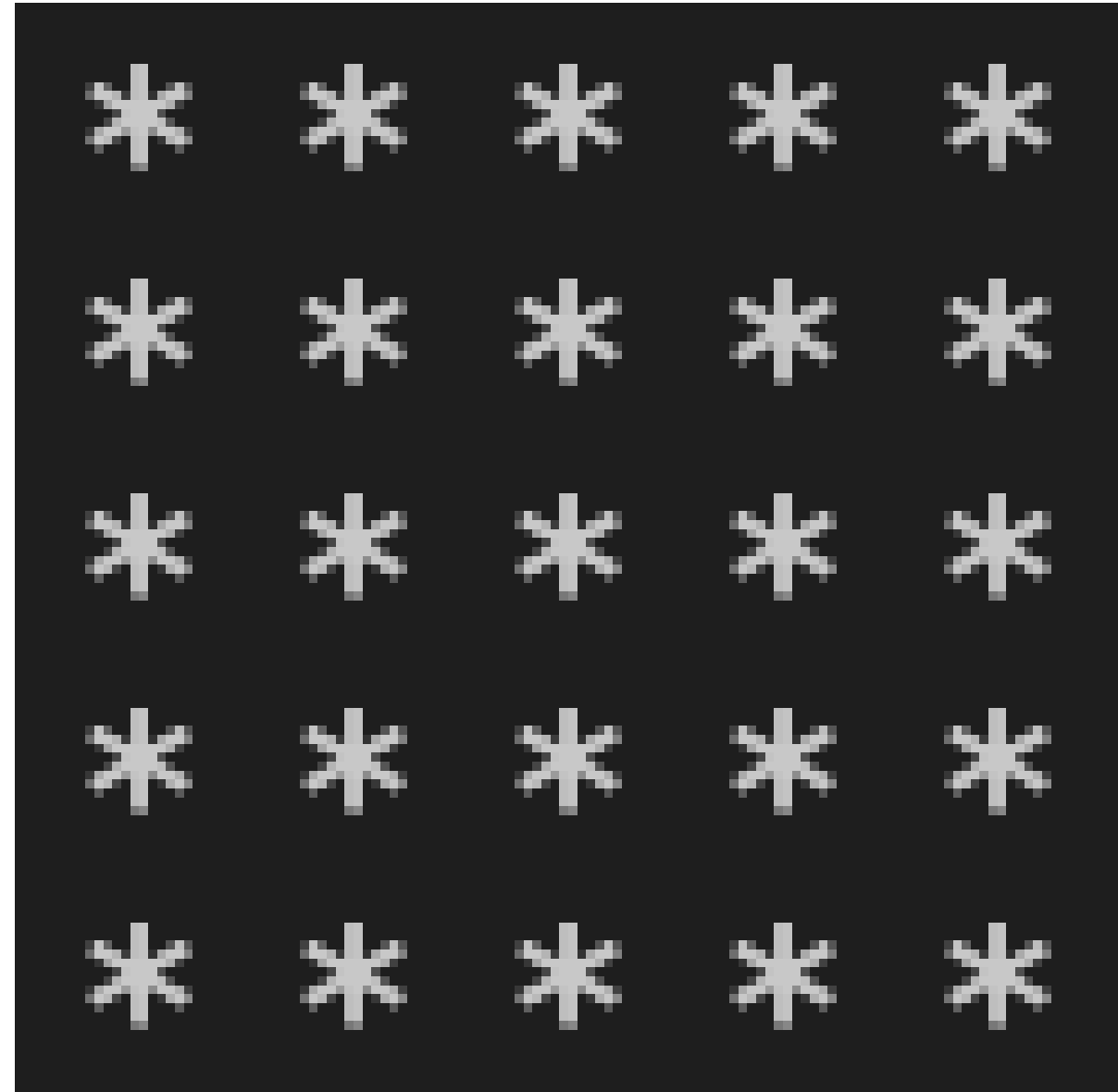
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● arpangarg@Arpans-MacBook-Air Java Codes % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
16May
30
17May
● arpangarg@Arpans-MacBook-Air Java Codes %
```

How Java Runs



Pattern 1



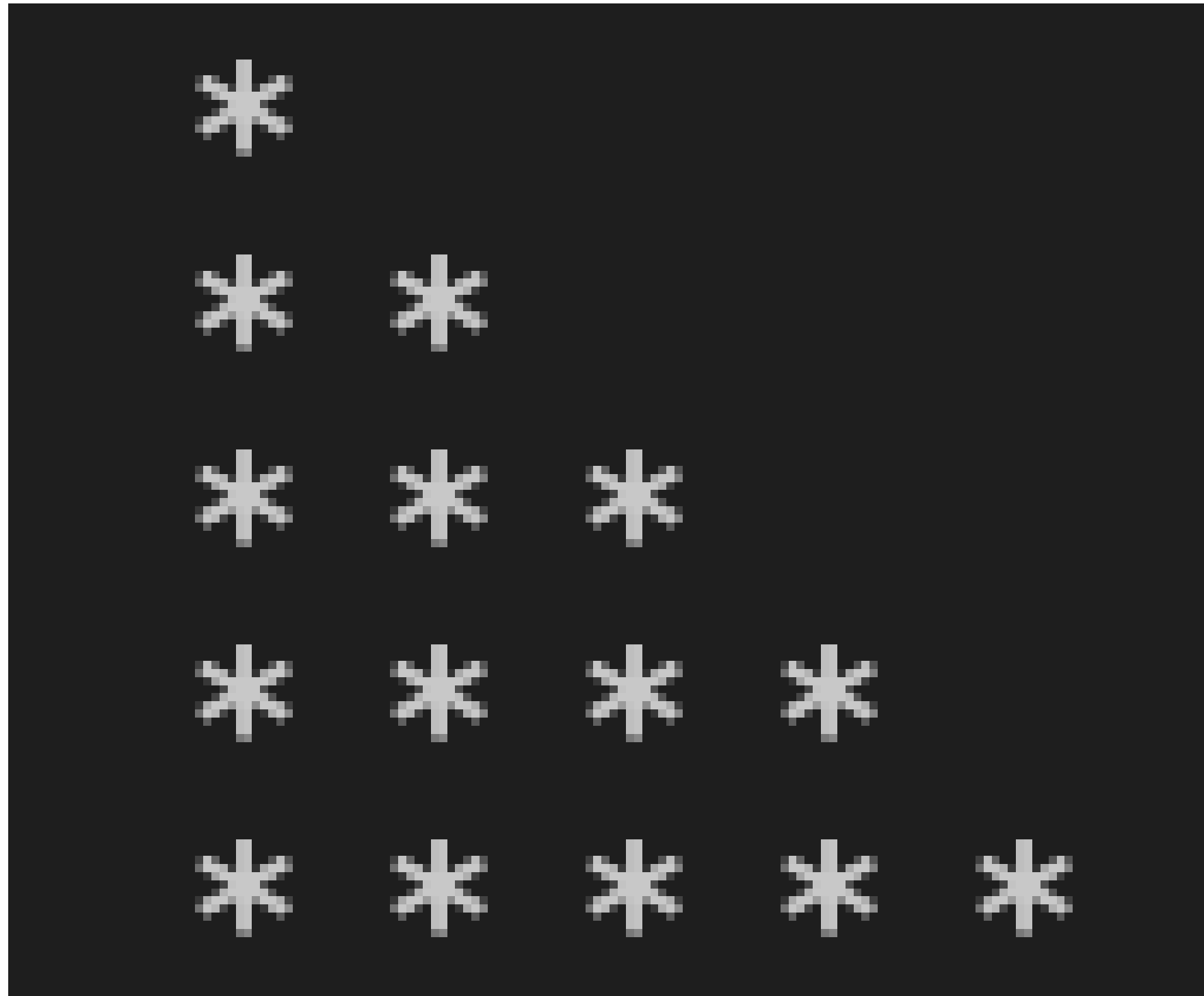
Pattern 1

```
J JavaBasics.java 1 ×
J JavaBasics.java > JavaBasics > main(String[])
1  import java.util.*;
2
3  public class JavaBasics{
4      Run | Debug
5      public static void main(String[] args) {
6          int rows = 5;
7
8          for (int i = 0; i < rows; i++) {
9              for (int j = 0; j < rows; j++) {
10                 System.out.print(s:"* ");
11             }
12             System.out.println();
13         }
14     }
15 }
16
17
```

PROBLEMS 70 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
● arpangarg@Arpans-MacBook-Air Java Codes % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
○ arpangarg@Arpans-MacBook-Air Java Codes %
```


Pattern 2



Pattern 2

J JavaBasics.java 1 X

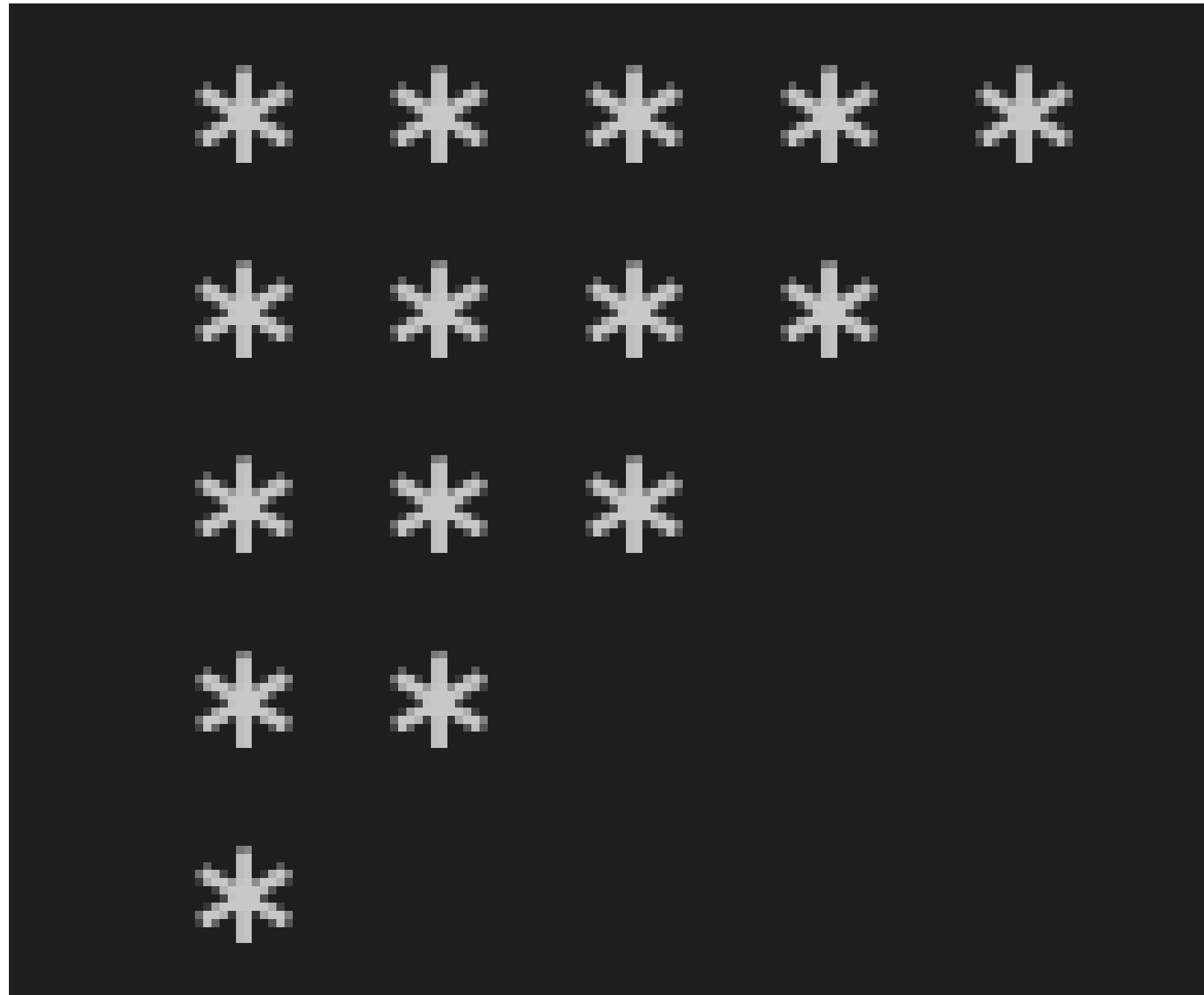
J JavaBasics.java > JavaBasics > main(String[])

```
1  import java.util.*;
2
3  public class JavaBasics{
    Run | Debug
4      public static void main(String[] args) {
5
6          int rows = 5;
7
8          for (int i = 1; i <= rows; i++) {
9              for (int j = 1; j <= i; j++) {
10                 System.out.print(s:"* ");
11             }
12             System.out.println();
13         }
14     }
15 }
16
17
```

PROBLEMS 70 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
arpangarg@Arpans-MacBook-Air Java Codes % cd "/Users/arpangarg/Downloads/DSA/DSA java/Java Codes/" && javac JavaBasics.java && java JavaBasics
*
* *
* * *
* * * *
* * * * *
arpangarg@Arpans-MacBook-Air Java Codes %
```

Pattern 3



Ques 4:

n = 5

```

                *
            *   *
        *   *   *
    *   *   *   *
*   *   *   *   *
```

Ques 5:

n = 5

```

*   *   *   *   *
    *   *   *   *
        *   *   *
            *   *
                *   *
                    *
```