Week 1 solution:

1.

```
public class name {
    public static void main(String[] args) {
        System.out.println("angshul");
    }
}
```

2.

```
import java.util.*;
public class add {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a:");
        int a=sc.nextInt();
        System.out.println("Enter b:");
        int b=sc.nextInt();
        System.out.println(a+b);
        sc.close();
    }
}
```

Op
Enter a:
5
Enter b:
10
15

3.

```
import java.util.Scanner;
public class temparature {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter °C:");
        double c=sc.nextDouble();
        System.out.println("°F = "+ (c*(9.0/5.0)+32));
        sc.close();
    }
}
```

Op
Enter °C:

100
°F = 212.0

4.

```
import java.util.Scanner;
public class temparature {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter °F:");
        double f=sc.nextDouble();
        System.out.println("°C = "+ ((f - 32) * 5.0 / 9.0));
        sc.close();
    }
}
```

Op
Enter °F:
100
°C = 37.77777777777778

5.

```
import java.util.Scanner;
public class area {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a,b:");
        int a=sc.nextInt();
        int b=sc.nextInt();
        System.out.println("Area = "+ (a*b)+" Perimeter= "+(2*(a+b)));
        sc.close();
    }
}
```

Op
Enter a,b:
10
5
Area = 50 Perimeter= 30

6.

```
import java.util.Scanner;
public class area {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter radius:");
        double a=sc.nextInt();
        System.out.printf("Area = %.2f Perimeter= %.2f",(3.14 * a * a),(2 *
3.14 * a));
        sc.close();
    }
```

```
}
```

Op
Enter radius:
5
Area = 78.50 Perimeter= 31.40

7.

```
import java.util.Scanner;
public class oddeve {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = sc.nextInt();
        if (number % 2 == 0) {
            System.out.println(number+" is even.");
        } else {
            System.out.println(number+" is odd.");
        }
        sc.close();
    }
}
```

Op
Enter a number: 69
69 is odd.

8.

```
import java.util.Scanner;
public class posneg {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter num:");
        int a=sc.nextInt();
        if(a<0){
            System.out.println("Negative");
        }
        else{
            System.out.println("Positive");
        }
        sc.close();
    }
}
```

Op
Enter num:
-69
Negative

9.

```java
public class maxno {
    public static void main(String[] args) {
        int n1=10,n2=25,n3=15;
        int max = (n1 > n2) ? ((n1 > n3) ? n1 : n3) : ((n2 > n3) ? n2 : n3);
        System.out.println("Maximum: "+max);
    }
}
```

Op

Maximum: 25

10.

```java
public class swap {
    public static void main(String[] args) {
        int a=108,b=69;
        int c=b; b=a; a=c;
        System.out.printf("%d %d",a,b);
    }
}
```

Op

69 108

11.

```java
import java.util.Scanner;
public class MiToKm {
     public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        double miles = sc.nextDouble();
        System.out.printf("%.2f mile = %.2f km.", miles, miles * 1.60934);
        sc.close();
    }
}
```

Op

10

10.00 mile = 16.09 km.

12.

```java
import java.util.Scanner;
public class leapy {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int y = sc.nextInt();
        System.out.println((y%4==0 && y%100!=0) || y%400==0 ? "Leap Year" :
"Not Leap Year");
        sc.close();
    }
}
```

Op

1600

Leap Year

13.

```
import java.util.Scanner;
public class grade {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int p = sc.nextInt();
        System.out.println(p >= 90 ? "A" : p >= 80 ? "B" : p >= 70 ? "C" : p >=
60 ? "D" : p >= 40 ? "E" : "F");
        sc.close();
    }
}
```

Op
40
E

14.

```
import java.util.Scanner;
public class divby5 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int num = sc.nextInt();
        System.out.println(num % 5 == 0 ? "Divisible by 5" : "Not divisible by
5");
        sc.close();
    }
}
```

Op
69
Not divisible by 5

Week 2 solution:

1.

```
import java.util.Scanner;
public class buzz {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int num = sc.nextInt();
        System.out.println(num % 7 == 0 || num % 10 == 7 ? "Buzz Number" : "Not
a Buzz Number");
        sc.close();
```

```
    }
}
```

Op
63
Buzz Number

2.

```
public class factorial {
    public static void main(String[] args){
        int x=12,fact=1;
        for(int i=1;i<=x;i++){
            fact=fact*i;
        }
        System.out.printf("Factorial is %d",fact);
    }
}
```

Op
Factorial is 479001600

3.

```
import java.util.Scanner;
public class fibonacci {
     public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter no of terms: ");
        int n = sc.nextInt();

        int fi = 0, se = 1;
        for (int i = 0; i < n; i++) {
            System.out.print(fi + " ");
            int next = fi + se;
            fi = se;
            se = next;
        }
        System.out.println();
        sc.close();
    }
}
```

Op
Enter no of terms: 6
0 1 1 2 3 5

4.

```
import java.util.*;
public class reverse {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
```

```
        String n = sc.next();
        System.out.println(new StringBuilder(n).reverse().toString());
        sc.close();
    }
}
```

Op
69
96

5.

```
import java.util.Scanner;
public class admission {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.printf("No of students:");
        int n = sc.nextInt();
        for (int i = 0; i < n; i++) {
            System.err.println("Enter Math, Physics, Chem:");
            int m = sc.nextInt(), p = sc.nextInt(), c = sc.nextInt();
            System.out.println((m >= 60 && p >= 50 && c >= 40 && m + p + c >=
200) || m + p >= 150 ? "Eligible" : "Not Eligible");
        }
        sc.close();
    }
}
```

Op
No of students:1
Enter Math, Physics, Chem:
100
50
5
Eligible

6.

```
import java.util.Scanner;
public class quadraticRoot {
     public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a, b, and c: ");
        double a = sc.nextDouble(), b = sc.nextDouble(), c = sc.nextDouble();

        double nirupak = b*b - 4*a*c; //eng term jnina
        if (nirupak > 0) {
            double root1 = (-b + Math.sqrt(nirupak)) / (2 * a);
            double root2 = (-b - Math.sqrt(nirupak)) / (2 * a);
            System.out.println("The roots are " + root1 + " and " + root2);
        } else if (nirupak == 0) {
            double root = -b / (2 * a);
```

```
            System.out.println("The root is " + root);
        } else {
            System.out.println("No real solution");
        }
        sc.close();
    }
}
```

Op

Enter a, b, and c: 1

-8

12

The roots are 6.0 and 2.0

7.

```
import java.util.Scanner;
public class natural {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        System.out.println(n * (n + 1) / 2);
        sc.close();
    }
}
```

Op

5

15

8.

```
import java.util.Scanner;
public class multipleof10 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Start: ");
        int start = sc.nextInt();
        System.out.print("End: ");
        int end = sc.nextInt();
        int firstMultiple = (start % 10 == 0) ? start : (start/10 + 1) * 10;
        for (int i = firstMultiple; i <= end; i += 10) {
            System.out.print(i + " ");
        }
        sc.close();
    }
}
```

Op

Start: 14

End: 40

20 30 40

9.

```java
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter num ");
        int num = sc.nextInt();
        System.out.println("Multiplication Table of " + num + ":");
            for (int i = 1; i <= 5; i++) {
                System.out.println(num+" x " +i+ " = "+(num * i));
            }
        sc.close();
    }
}
```

Op
Enter num: 5
Multiplication Table of 5:
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25

10.

```java
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("first number: ");
        int a = sc.nextInt();
        System.out.print("second number: ");
        int b = sc.nextInt();

        while (b != 0) {
            int remainder = a % b;
            a = b;
            b = remainder;
        }
        System.out.println("HCF is: " + a);
        sc.close();
    }
}
```

Op
first number: 24
second number: 36
HCF is: 12

11.

```java
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int a = sc.nextInt(), b = sc.nextInt();
        int hcf = 1, tempA = a, tempB = b;
        while (b != 0) {
            int remainder = a % b;
            a = b;
            b = remainder;
        }
        hcf = a;
        int lcm = (tempA * tempB) / hcf;
        System.out.println(lcm);
        sc.close();
    }
}
```

Op
24
36
72

12.

```java
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int num = sc.nextInt();
        int c = 0;

        if (num == 0) {
            c = 1;
        } else {
            while (num != 0) {
                num /= 10;
                c++;
            }
        }
        System.out.println("Num of digits: " + c);
        sc.close();
    }
}
```

Op
69
Num of digits: 2

13.

```java
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("base: ");
        double base = sc.nextDouble();
        System.out.print("exponent: ");
        double exponent = sc.nextDouble();
        System.out.println(base + "^" + exponent + "=" + Math.pow(base,
exponent));
        sc.close();
    }
}
```

Op
base: 3
exponent: 3
3.0^3.0=27.0

14.

```java
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String n = sc.next();
        String rn = new StringBuilder(n).reverse().toString();
        if (n.equals(rn)) {
            System.out.println("palindrome.");
        } else {
            System.out.println("not a palindrome.");
        }
        sc.close();
    }
}
```

Op
121
palindrome.

15.

```java
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int num = sc.nextInt();
        sc.close();
        if (num <= 1) {
            System.out.println(num + " is not prime");
```

```
            return;
        }
        boolean isPr = true;
        for (int i = 2; i * i <= num && isPr; i++)
            if (num % i == 0) isPr = false;
        System.out.println(num + (isPr ? " is prime" : " is not prime"));
    }
}
```

Op
Enter a number: 69
69 is not prime

16.

```
import java.util.Scanner;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter binary number: ");
        String binary = sc.next();
        System.out.println("Decimal: " + Integer.parseInt(binary, 2));

        System.out.print("Enter a decimal number: ");
        int num = sc.nextInt();
        System.out.println("Binary: " + Integer.toBinaryString(num));

        sc.close();
    }
}
```

Op
Enter binary number: 11
Decimal: 3
Enter a decimal number: 7
Binary: 111

17.

```
import java.util.*;
public class A {
    public static void main(String[] args) {
        double[] num = {12.5, 3.7, 9.2, 7.1, 15.6};
        double m;
        Arrays.sort(num);
        int length = num.length;
        if (length % 2 == 0) {
            m= (num[length / 2 - 1] + num[length/2]) / 2;
        } else {
            m= num[length / 2];
        }
```

```
        System.out.println("The median is: " + m);
    }
}
```

Op
The median is: 9.2

18.

```
public class A {
    double calculateEuler() {
        double e = 1.0,fac=1.0;
        for (int i = 1; i <= 10; i++) {
            fac *= i;
            e += 1.0 / fac;
        }
        return e;
    }
    public static void main(String[] args) {
        A obj = new A();
        System.out.printf("Euler's number (e)= %.5f",obj.calculateEuler());
    }
}
```

Op
Euler's number (e)= 2.71828

19.

```
public class A {
    public static void main(String[] args) {
        for (int i = 1; i <= 3; i++) {
            for (int j = 1; j <= 3; j++) {
                for (int k = 1; k <= 3; k++) {
                    System.out.printf("%d%d%d ",i,j,k);
                }
            }
        }
    }
}
```

op
111 112 113 121 122 123 131 132 133 211 212 213 221 222 223 231 232 233 311 312 313 321 322 323 331 332 333

20.

```
import java.util.*;
public class A {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int m=sc.nextInt(), n=sc.nextInt();
        System.out.println((m%n==0)?m+" is multiple":m+" isnt multiple");
```

```
        sc.close();
    }
}
```

op
69
3
69 is multiple

21.

```
import java.util.*;
public class A {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int start = sc.nextInt(), end = sc.nextInt();
        if (start < 0 || end < 0 || start > end) {
            System.out.println("Invalid input.");
        } else {
            System.out.println("Prime numbers between " + start + " and " + end
+ ":");
            for (int num = start; num <= end; num++) {
                if (num > 1) {
                    boolean ispr = true;
                    for (int i = 2; i <= Math.sqrt(num); i++) {
                        if (num % i == 0) {
                            ispr = false;
                            break;
                        }
                    }
                    if (ispr) System.out.print(num + " ");
                }
            }
            System.out.println();
        }
        sc.close();
    }
}
```

Op
0
10
Prime numbers between 0 and 10:
2 3 5 7

22.

```
import java.util.Scanner;
import java.lang.Math;
public class armstrong {
    public static void main(String[] args) {
```

```
        Scanner sc = new Scanner(System.in);
        String num = sc.next();
        int numInt = Integer.parseInt(num);

        int len = num.length(), sum = 0;
        for (int i = 0; i < len; i++) {
            int digit = num.charAt(i) - '0';
            sum += Math.pow(digit,len);
        }
```

```
        System.out.println(numInt == sum ? num + " is Armstrong number." : num
+ " isnt Armstrong number.");
        sc.close();
    }
}
```

Op
153
153 is Armstrong number.

23.

```
public class A {
    public static void main(String[] args) {
        int r = 3,num = 1;
        for (int i = 1; i <= r; i++) {
            for (int j = 1; j <= (2*i-1); j++) {
                System.out.print(num + " ");
                num++;
            }
            System.out.println();
        }
    }
}
```

Op
1
2 3 4
5 6 7 8 9

24.

```
public class A {
    public static void main(String[] args) {
        int n = 4;
        for (int i = 1; i <= n; i++) {
            // Space
            for (int space = 1; space <= (n - i); space++) {
                System.out.print("  ");
            }
            // Decrease
            for (int j = i; j >= 1; j--) {
```

```
                System.out.print(j + " ");
            }
            // Increase
            for (int j = 2; j <= i; j++) {
                System.out.print(j + " ");
            }
            System.out.println();
        }
    }
}
```

Op

```
      1
    2 1 2
  3 2 1 2 3
4 3 2 1 2 3 4
```

25.

```
public class A{
    public static void main(String[] args) {
        int n = 6;

        for (int i = 1; i <= n; i++) {
            for (int s = 1; s <= i - 1; s++) {  //space
                System.out.print(" ");
            }
            System.out.print(i);    //num
            for (int s = 1; s <= 2*(n - i)-1; s++)  //space
                System.out.print(" ");
            if (i != n) {           //num
                System.out.print(i);
            }
            System.out.println();
        }
    }
}
```

Op

```
1     1
 2   2
  3 3
   4
PS C:\Users\angsh\OneDrive\coding
```

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