1. Divisors

```
public class Divisors {
	public static void main (String[] args) {
		int indexNum = Integer.parseInt(args[0]);

		for(int i = 1; i <= indexNum; i++) {
			if(indexNum % i == 0)
			System.out.println(i);
		}

	}

}
```

2. Reverse

```
public class Reverse {
	public static void main (String[] args){
		String index = args[0];

		for (int i = index.length() - 1; i >= 0 ; i--) {
			System.out.print(index.charAt(i));
		}
		System.out.println();
		int length = index.length();
		int middle = 0;

		if (length % 2 == 0) {
			middle = (length / 2) - 1;
		}
		else {
			middle = (length / 2);
		}
		System.out.println("The middle character is " + index.charAt(middle));

	}
}
```

3. Luck streak

```
public class InOrder {
	public static void main (String[] args) {
		int num = (int)(Math.random() * 10);
		System.out.print(num + " ");
		int newNum = (int)(Math.random() * 10);

		while (num <= newNum) {
			System.out.print(newNum + " ");
			num = newNum;
			newNum = (int)(Math.random() * 10);

		}

	}
}
```

4. Perfect numbers

```
public class Perfect {
	public static void main (String[] args) {
		int indexNum = Integer.parseInt(args[0]);
		String isPerfect = indexNum + " is a perfect number since " +
indexNum + " = 1";
		int sum = 1;

		for (int i = 2; i < indexNum; i++) {
			if(indexNum % i == 0) {
				sum = sum + i;
				isPerfect = isPerfect + " + " + i;
			}
		}

		if(sum == indexNum) {
			System.out.println(isPerfect);
		} else {
			System.out.println(indexNum + " is not a perfect number");

		}

	}
}
```

5. DamkaBoard

```
public class DamkaBoard {
	public static void main(String[] args) {
		int n = Integer.parseInt(args[0]);
		for(int i = 0; i < n; i++) {
			for(int j = 0; j < n; j++) {
				if(i % 2 == 0) {
					System.out.print("* ");
				}
				else {
					System.out.print(" *");
				}
			}
				System.out.println();
		}
	}
}
```

6. OneOfEach

```
public class OneOfEach {
    public static void main (String[] args) {
            boolean isGirl = false;
            boolean isBoy = false;
            int count = 0;
            double chance = Math.random();


            while((isGirl == false) || (isBoy == false)) {
                    if(chance < 0.5) {
                            isGirl = true;
                            System.out.print("g ");
                            count++;
                    }
                    else {
                            isBoy = true;
                            System.out.print("b ");
                            count++;
                    }
                    chance = Math.random();
            }
            System.out.println();
            System.out.println("You made it... and you now have " + count + "
children.");

            }
    }
```

7. OneOfEachStats1

```
public class OneOfEachStats1 {
	public static void main (String[] args) {
		int index = Integer.parseInt(args[0]);
		double chance = Math.random();
		int children2 = 0;
		int children3 = 0;
		int children4 = 0;
		int countGeneral = 0;

		for(int i = 0; i < index; i++) {
			boolean isGirl = false, isBoy = false ;
			int count = 0;

			while((isGirl == false) || (isBoy == false)) {
				if(chance < 0.5) {
				isGirl = true;
				count++;
				} else {
					isBoy = true;
					count++;
				}
			chance = Math.random();
			}
			countGeneral = countGeneral + count;

				if (count == 2) {
					children2++;
				} else if(count == 3) {
					children3++;
				} else {
					children4++;
				}
		}

		double averageNum = (double)countGeneral/index;
		System.out.println("Average: " + averageNum + " children to get at least
one of each gender.");
		System.out.println("Number of families with 2 children: " + children2);
		System.out.println("Number of families with 3 children: " + children3);
		System.out.println("Number of families with 4 or more children: " +
children4);

		int mostCommon = Math.max(children4, Math.max(children2,children3));
		if(mostCommon == children4) {
```

```
                System.out.println("The most common number of children is 4 or
more.");
            } else if(mostCommon == children3) {
                System.out.println("The most common number of children is 3.");
            } else {
                System.out.println("The most common number of children is 2.");
            }
        }
}
```

8. OneOfEachStats

```
import java.util.Random;

public class OneOfEachStats {
	public static void main (String[] args) {
		// Gets the two command-line arguments
		int index = Integer.parseInt(args[0]);
		int seed = Integer.parseInt(args[1]);
		// Initailizes a random numbers generator with the given seed value
	Random generator = new Random(seed);
		double chance = generator.nextDouble();
		int children2 = 0;
		int children3 = 0;
		int children4 = 0;
		int countGeneral = 0;

		for(int i = 0; i < index; i++) {
			boolean isGirl = false, isBoy = false ;
			int count = 0;

			while((isGirl == false) || (isBoy == false)) {
				if(chance < 0.5) {
				isGirl = true;
				count++;
				} else {
					isBoy = true;
					count++;
				}
			chance = generator.nextDouble();;
			}
			countGeneral = countGeneral + count;

				if (count == 2) {
					children2++;
				} else if(count == 3) {
					children3++;
				} else {
					children4++;
				}
		}

		double averageNum = (double)countGeneral/index;
		System.out.println("Average: " + averageNum + " children to get at least
one of each gender.");
		System.out.println("Number of families with 2 children: " + children2);
```

```
                System.out.println("Number of families with 3 children: " + children3);
                System.out.println("Number of families with 4 or more children: " +
children4);

                int mostCommon = Math.max(children4, Math.max(children2,children3));
                if(mostCommon == children4) {
                        System.out.println("The most common number of children is 4 or
more.");
                } else if(mostCommon == children3) {
                        System.out.println("The most common number of children is 3.");
                } else {
                        System.out.println("The most common number of children is 2.");
                }
        }
}
```