```
public class Divisors {
    public static void main(String[] args) {
        int x = Integer.parseInt(args[0]);
        for (int i =1; i <=x; i++) {
            if(x%i==0){
                System.out.println(i);
            }
        }
    }
}
```

```
public class Reverse {
    public static void main(String[] args) {
        String word = args[0];
        int n = word.length();
        for (int i = n - 1; i >= 0; i--) {
            char name = word.charAt(i);
            System.out.print(name);
        }
        System.out.println();
if(n%2==0){
        char middle = (word.charAt ( (n/2) - 1) );
    System.out.println("The middle character is " + middle);
}
if(n%2!=0){
    char middle = (word.charAt( (n/2) ));
     System.out.println("The middle character is " + middle);
}
    }
}
```

```
public class InOrder {
    public static void main(String[] args) {
        int firstNum = (int) (Math.random() * 10); //[0,10)
        System.out.print(firstNum + " ");
        do {
            int secondNum = (int) (Math.random() * 10);
            if (secondNum >= firstNum) {
                System.out.print(secondNum + " ");
                firstNum = secondNum;
            } else {
                break;
            }
        } while (true);
    }
}
```

```
public class Perfect {
    public static void main(String[] args) {
        int x = Integer.parseInt(args[0]);
        int sum = 0;
        boolean IsPerfect = false;
        for (int i = 1; i < x; i++) {
            if (x % i == 0) {
                sum = sum + i;
            }
        }
        if (x == sum) {
            IsPerfect = true;
        }
        if (IsPerfect) {
            System.out.print(x+" is a perfect number since " + x + " = 1");
            for (int j = 2; j < x; j++) {
                if (x % j == 0) {
                    System.out.print(" + " + j);
                }
            }
        } else{
            System.out.println(x+" is not a perfect number");
        }
    }
}
```

```
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("* ");
                }
                if (i % 2 == 1) {
                    System.out.print(" *");
                }
            }
            System.out.println();
        }
    }
}
```

```
public class OneOfEach {
	public static void main(String[] args) {
		int countGirl = 0;
		int countBoy = 0;
		int sum = 0;
		int number = (int) (Math.random() * 2);
		if (number == 0) { //girl
			while (number == 0) { //until a male is born repeat
				countGirl++;
				number = (int) (Math.random() * 2);
			}
for (int i = 0; i < countGirl; i++) {
// a boy was born the loop ended g g b b we put in words
				System.out.print("g ");
			}
			System.out.println("b ");
			countBoy++;
			sum = countGirl + countBoy;
		System.out.println("You made it...and you have " + sum + " children.");
		} else {
			while (number == 1) {
				countBoy++;
				number = (int) (Math.random() * 2);
			}
			for (int i = 0; i < countBoy; i++) {
				System.out.print("b ");
			}
			System.out.println("g ");
			countGirl++;
			sum = countGirl + countBoy;
		System.out.println("You made it...and you have " + sum + " children");
		}
	}
}
```

```
public class OneOfEachStats1 {
	public static void main(String[] args) {
		int countGirl = 0;
		int countBoy = 0;
		int sum = 0;
		int sumOfAll=0;
		double T=Double.parseDouble(args[0]);
		double trial = T;
		int numberOf2children=0;
		int numberOf3children=0;
		int numberOf4childrenOrMore=0;
		int mod=0;
		for (int j = 0; j <trial ; j++) {
			int number=(int) (Math.random()*2);
			if(number==0) {
				while(number==0){
					countGirl++;
					number=(int) (Math.random()*2);
				}
				countBoy++;
				sum=countGirl+countBoy;
				sumOfAll=sumOfAll+sum; //total number of children
				countBoy=0;
				countGirl=0;
			}
			else{
				while(number==1){
					countBoy++;
					number=(int) (Math.random()*2);
				}
				countGirl++;
				sum=countGirl+countBoy;
				sumOfAll=sumOfAll+sum; //total number of children
				countBoy=0;
				countGirl=0;
			}
			if(sum==2){
				numberOf2children++;
			}
			else if(sum==3){
				numberOf3children++;
			}
			else {
				numberOf4childrenOrMore++;
```

```
                        }
                }
                if(numberOf2children>numberOf3children &&
numberOf2children>numberOf4childrenOrMore) {
                        mod = 2;
                } else if(numberOf3children>numberOf2children &&
numberOf3children>numberOf4childrenOrMore){
                        mod=3;
                } else {
                        mod=4;
                }
                double average=sumOfAll/trial;
                System.out.println("Average: "+ average + " children to get at least one
of each gender." );
                System.out.println("Number of families with 2 children:
"+numberOf2children);
                System.out.println("Number of families with 3 children:
"+numberOf3children);
                System.out.println("Number of families with 4 or more children:
"+numberOf4childrenOrMore);
                if(mod<4){
                        System.out.println("The most common number of children is
"+mod+ ".");
                }
                else {
                        System.out.println("The most common number of children is:
"+mod+ " or more.");
                }
        }
}
```

```
import java.util.Random;
public class OneOfEachStats {
	public static void main(String[] args) {
		double T=Double.parseDouble(args[0]);
		int seed=Integer.parseInt(args[1]);
		double trial = T;
		Random generator=new Random(seed);
		int countGirl = 0;
		int countBoy = 0;
		int sum = 0;
		int sumOfAll=0;
		int numberOf2children=0;
		int numberOf3children=0;
		int numberOf4childrenOrMore=0;
		int mod=0;
		for (int j = 0; j <trial ; j++) {
			int number=(int) (generator.nextDouble()*2);
			if(number==0) {
				while(number==0){
					countGirl++;
					number=(int) (generator.nextDouble()*2);
				}
				countBoy++;
				sum=countGirl+countBoy;
				sumOfAll=sumOfAll+sum; //total number of children
				countBoy=0;
				countGirl=0;
			}
			else{
				while(number==1){
					countBoy++;
					number=(int) (generator.nextDouble()*2);
				}
				countGirl++;
				sum=countGirl+countBoy;
				sumOfAll=sumOfAll+sum; //total number of children
				countBoy=0;
				countGirl=0;
			}
			if(sum==2){
				numberOf2children++;
			}
			else if(sum==3){
				numberOf3children++;
```

```
                }
                else {
                        numberOf4childrenOrMore++;
                }
        }
        if(numberOf2children>numberOf3children &&
numberOf2children>numberOf4childrenOrMore) {
                mod = 2;
        } else if(numberOf3children>numberOf2children &&
numberOf3children>numberOf4childrenOrMore){
                mod=3;
        } else {
                mod=4;
        }
        double average=sumOfAll/trial;
        System.out.println("Average: "+ average + " children to get at least one
of each gender." );
        System.out.println("Number of families with 2 children:
"+numberOf2children);
        System.out.println("Number of families with 3 children:
"+numberOf3children);
        System.out.println("Number of families with 4 or more children:
"+numberOf4childrenOrMore);
        if(mod<4){
                System.out.println("The most common number of children is
"+mod+ ".");
        }
        else {
                System.out.println("The most common number of children is:
"+mod+ " or more.");
        }
    }
}
```