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1. Divisors :

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

                     //check all the divisors of x
                    int k = 1;
                    while ( k <= x ){
                              int d = x / k ;
                              int dModulo = x % k;
            if ( dModulo == 0)
            System.out.println( k ) ;
                    k++ ;
                    }
          }
}
```

2. Reverse:

```
public class Reverse {
          public static void main (String[] args){
                    String word = (args[0]) ;
                    int length = word.length();
                    char middle ;

                    //prints the word backwards
                    int i = length-1 ;
                    while (i >= 0){
                              System.out.print(word.charAt(i));
                              i--;
                    }

                    //print the middle char
                    if (length%2 == 0){
                              middle = word.charAt( (length/2)-1 );
                    }
                    else {
                              middle = word.charAt( length/2 );
                              }

                    System.out.println( "" );
                    System.out.println( "The middle character is " + middle );
          }
}
```

3. InOrder:

```
public class InOrder {
          public static void main (String[] args) {
                    //Generates random numbers equal or bigger then random_0

                    int random = (int)(Math.random()*10) ;
                    System.out.print( random + " " );
                    int last = random ;
                    boolean stopper = true;

                    while (stopper == true){
                              random = (int)(Math.random()*10);
                              if (random >= last ){
                                        System.out.print( random + " " );
                                        last = random;
                              }
                              else{
                              stopper = false;
                              }
                    }
          }
}
```

4. Damka Board :

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

                    for (int i = 1 ; i <= x ; i++ ){
                              for(int j = 1 ; j <= x ; j++){
                                        if ( i%2 == 0 ){System.out.print( " *" );}
                                        else {System.out.print( "* " );}
                              }
                              System.out.println( );
                              }
          }
}
```

5. Perfect :

```
public class Perfect {
	public static void main (String[] args) {
		//define Variables
		int x = Integer.parseInt(args[0]) ;
		int sum = 1 ;
		int d = 0 ; //divsor
		int dModulo = 0 ;//divsor modulo

		//checking x's divisors
		int i = 2 ;
		for ( i = 2 ; i < x ; i++){
			d = x / i;
			dModulo = x % i ;
			if ( dModulo == 0){
			sum = sum + i ;
			}
		}

		//if x is perfect - print the numbers
		if ( sum == x ){
			System.out.print ( x + " is a perfect number since " + x +
" = 1" );
			i = 2 ;
			while (i < x){
			d = x / i;
			dModulo = x % i ;
			if ( dModulo == 0){
			System.out.print ( " + " + i );
				}
				i++ ;
			}

		}

		//if x isn't perfect print it
		else {
			System.out.println( x + " is not a perfect number " );
		}
	}
}
```

6. OneOfEachStats :

```
import java.util.Random;
public class OneOfEachStats {
          public static void main (String[] args) {
                    // Gets the two command-line arguments
                    int T = 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 totalKids = 0.0; //the total kids for average
                    int twoChild = 0; //family's number with 2 children
                    int threeChild = 0; //family's number with 3 children
                    int fourChild = 0;//family's number with 4 children or more

                    //make random family T times

                    for (int i = 1 ; i <= T ; i++ ){
                    int girl = 0; // number of girls
                    int boy = 0; //number of boys
                    int kids = 0; //sum of the kids
                              while ( boy == 0 || girl == 0){
                                        double rnd = generator.nextDouble();
                                        if ( rnd > 0.5 ){girl++ ;}
                                        else {boy++ ;}
                                        kids = girl + boy ;
                                        }
                                        totalKids += kids ;
                              if( kids == 2 ){twoChild++ ;}
                              else if( kids == 3 ){threeChild++ ;}
                              else {fourChild++ ;}
                    }

                    //print the result and the average
                    double average = totalKids/(double)T ;
                    System.out.println( "Average: " + average + " children to get at
least one of each gender." );
                    System.out.println( "Number of families with 2 children: " + twoChild
);
                    System.out.println( "Number of families with 3 children: " +
threeChild );
                    System.out.println( "Number of families with 4 or more children: " +
fourChild );

                    //check which is the common family kids number
                    if ( twoChild > threeChild && twoChild > fourChild ){
                     System.out.println( "The most common number of children is 2." );
                     }
                    else if ( threeChild > twoChild && threeChild > fourChild ){
                     System.out.println( "The most common number of children is 3." );
                     }
                    else {
                     System.out.println( "The most common number of children is 4 or
more." );
                     }
          }
}
```