

```
satvik@Satviks-MacBook-Air: ~/src/github/sahasatvik/Computer-Project/ISC (zsh)
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC  master cat src/Quine.java
public class Quine { public static void main (String[] args) { char q = 34; System.out.println(s + q + s + q + ';' + '}'); } public static String s = "public
class Quine { public static void main (String[] args) { char q = 34; System.out.println(s + q + s + q + ';' + '}'); } public static String s = "};
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC  master java -cp bin Quine
public class Quine { public static void main (String[] args) { char q = 34; System.out.println(s + q + s + q + ';' + '}'); } public static String s = "public
class Quine { public static void main (String[] args) { char q = 34; System.out.println(s + q + s + q + ';' + '}'); } public static String s = "};
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC  master
```

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satvik@Satviks-MacBook-Air: ~/src/github/sahasatvik/Computer-Project/ISC (zsh)
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords 0
zero
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords 1
one
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords 123456789
one hundred twenty three million, four hundred fifty six thousand, seven hundred eighty nine
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords 123456789123456789
one hundred twenty three quadrillion, four hundred fifty six trillion, seven hundred eighty nine billion, one hundred twenty three million, four hundred fifty s
ix thousand, seven hundred eighty nine
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords 0.123456789
zero point one two three four five six seven eight nine
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords 123456789.123456789
one hundred twenty three million, four hundred fifty six thousand, seven hundred eighty nine point one two three four five six seven eight nine
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords -123456789.123456789
minus one hundred twenty three million, four hundred fifty six thousand, seven hundred eighty nine point one two three four five six seven eight nine
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords -100000009.100000009
minus one hundred million, nine point one zero zero zero zero zero zero zero nine
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords -abc
Invalid number!
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin NumberToWords 127.0.0.1
Invalid number!
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master
```

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satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin ShapeDemo

Shapes :

Circle (radius = 1.000000)

Cube (side = 2.000000)

Triangle (sides = {3.000000, 4.000000, 5.000000})

2D Shapes :

Circle (radius = 1.000000)

area = 3.141593 perimeter = 6.283185

Triangle (sides = {1.000000, 1.000000, 1.000000})

area = 0.433013 perimeter = 3.000000

Square (side = 1.000000)

area = 1.000000 perimeter = 4.000000

Scalable :

LineSegment (length = 1.000000)

scaled by 3 is LineSegment (length = 3.000000)

Sphere (radius = 1.000000)

scaled by 3 is Sphere (radius = 3.000000)

Cuboid (length = 1.000000, breadth = 2.000000, height = 3.000000) scaled by 3 is Cuboid (length = 3.000000, breadth = 6.000000, height = 9.000000)

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```
satvik@Satviks-MacBook-Air: ~/src/github/sahasatvik/Computer-Project/ISC (zsh)
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 1000 1000
BubbleSort : 7003610 ns
InsertionSort : 3003000 ns
QuickSort : 877603 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 100 1000
BubbleSort : 346620 ns
InsertionSort : 134964 ns
QuickSort : 99572 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 10 1000
BubbleSort : 7442 ns
InsertionSort : 6520 ns
QuickSort : 22984 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 10 100
BubbleSort : 7921 ns
InsertionSort : 5599 ns
QuickSort : 21480 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 10 10
BubbleSort : 7470 ns
InsertionSort : 5672 ns
QuickSort : 59969 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 10 1
BubbleSort : 3297 ns
InsertionSort : 4719 ns
QuickSort : 27525 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 100 1
BubbleSort : 5918 ns
InsertionSort : 10178 ns
QuickSort : 463846 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin SortCompare 1000 1
BubbleSort : 30023 ns
InsertionSort : 69538 ns
QuickSort : 6367495 ns
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master
```

satvik@Satviks-MacBook-Air: ~/src/github/sahasatvik/Computer-Project/ISC (zsh)

satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC > master > cat CommentTest.java

```
/**
 * Documentation
 **/
public class CommentTest {
    /* Comment
     * spanning
     * multiple
     * lines
     */
    public static void main (String[] args) {
        // Single line comment
        System.out.println("Output"); // Comment after statement
        char c = '\n';
        String s = "/* Not a comment ! */";
    }
}
```

satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC > master > java -cp bin RemoveComments CommentTest.java

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

        System.out.println("Output");
        char c = '\n';
        String s = "/* Not a comment ! */";
    }
}
```

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satvik@Satviks-MacBook-Air: ~/src/github/sahasatvik/Computer-Project/ISC (zsh)

satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin DeckDemo

[KC, QC, JC, 10C, 9C, 8C, 7C, 6C, 5C, 4C, 3C, 2C, AC, KD, QD, JD, 10D, 9D, 8D, 7D, 6D, 5D, 4D, 3D, 2D, AD, KH, QH, JH, 10H, 9H, 8H, 7H, 6H, 5H, 4H, 3H, 2H, AH, KS, QS, JS, 10S, 9S, 8S, 7S, 6S, 5S, 4S, 3S, 2S, AS]

[3C, 2H, 4D, 9D, 6D, 6S, 2C, JH, 5H, QD, KS, AH, QS, JD, 7D, 5S, 4S, AC, QH, 10H, 2D, 8S, 6C, 9H, QC, 4C, 10C, 10S, 3H, 9S, JS, 9C, KC, 7H, 4H, AD, 7S, 8D, 3S, 2S, 3D, 10D, 5D, 5C, 6H, KD, AS, JC, 7C, 8C, KH, 8H]

THREE of CLUBS

TWO of HEARTS

FOUR of DIAMONDS

NINE of DIAMONDS

SIX of DIAMONDS

SIX of SPADES

TWO of CLUBS

JACK of HEARTS

FIVE of HEARTS

QUEEN of DIAMONDS

KING of SPADES

ACE of HEARTS

QUEEN of SPADES

JACK of DIAMONDS

SEVEN of DIAMONDS

FIVE of SPADES

FOUR of SPADES

ACE of CLUBS

QUEEN of HEARTS

TEN of HEARTS

TWO of DIAMONDS

EIGHT of SPADES

SIX of CLUBS

NINE of HEARTS

QUEEN of CLUBS

FOUR of CLUBS

[10C, 10S, 3H, 9S, JS, 9C, KC, 7H, 4H, AD, 7S, 8D, 3S, 2S, 3D, 10D, 5D, 5C, 6H, KD, AS, JC, 7C, 8C, KH, 8H]

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```
satvik@Satviks-MacBook-Air: ~/src/github/sahasatvik/Computer-Project/ISC (zsh)
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC % master java -cp bin BinaryTreeDemo
Enter a sentence : One of my most productive days was throwing away 1000 lines of code.
Sorted words : AWAY CODE DAYS LINES MOST MY OF ONE PRODUCTIVE THROWING WAS
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC % master java -cp bin BinaryTreeDemo
Enter a sentence : Unix is simple. It just takes a genius to understand its simplicity.
Sorted words : A GENIUS IS IT ITS JUST SIMPLE SIMPLICITY TAKES TO UNDERSTAND UNIX
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC % master java -cp bin BinaryTreeDemo
Enter a sentence : Debugging time increases as a square of the program's size.
Sorted words : A AS DEBUGGING INCREASES OF PROGRAM S SIZE SQUARE THE TIME
satvik@Satviks-MacBook-Air > ~/src/github/sahasatvik/Computer-Project/ISC % master
```

```
satvik@Satviks-MacBook-Air: ~/src/github/sahasatvik/Computer-Project/ISC (zsh)
satvik@Satviks-MacBook-Air ~/src/github/sahasatvik/Computer-Project/ISC master java -cp bin DEQueueDemo
Enqueuing (Front) : 77
Enqueuing (Front) : 74
Enqueuing (Front) : 36
Enqueuing (Front) : 8
Enqueuing (Front) : 77
Enqueuing (Front) : 29
Enqueuing (Front) : 76
Enqueuing (Front) : 67
Enqueuing (Front) : 79
Enqueuing (Front) : 99
Enqueuing (Rear) : 13
Enqueuing (Rear) : 76
Enqueuing (Rear) : 57
Enqueuing (Rear) : 51
Enqueuing (Rear) : 90
Enqueuing (Rear) : 81
Enqueuing (Rear) : 85
Enqueuing (Rear) : 75
DEQueue[18] : [75, 85, 81, 90, 51, 57, 76, 13, 77, 74, 36, 8, 77, 29, 76, 67, 79, 99]
(Dequeuing 10 numbers (Front))
Dequeuing : 99
Dequeuing : 79
Dequeuing : 67
Dequeuing : 76
Dequeuing : 29
Dequeuing : 77
Dequeuing : 8
Dequeuing : 36
Dequeuing : 74
Dequeuing : 77
Queue[ 8] : [75, 85, 81, 90, 51, 57, 76, 13]
(Dequeuing until empty (Rear))
Dequeuing : 75
Dequeuing : 85
Dequeuing : 81
Dequeuing : 90
Dequeuing : 51
Dequeuing : 57
Dequeuing : 76
Dequeuing : 13
DEQueue[ 0] : []
satvik@Satviks-MacBook-Air ~/src/github/sahasatvik/Computer-Project/ISC master
```


