**Day1 -> Division**

**while** (rem>=quot) {

rem = rem-quot;

div++;

}

22.0divided by 2.2 is 10.0, remainder 3.552713678800501E-15

**Day1 -> Multiplication**

using next() in Try/Catch and nextInt() in Main moves the token forward twice; while (CheckInteger(myIn) == false)myIn.next();

.next()

.nextDouble()

Can be used consecutively, without having the scanner leap two steps forward?

**public** **static** **boolean** CheckInteger(Scanner Input) {

**try**{

**int** usrInput =Input.nextInt();

}

**catch**(InputMismatchException exception)

{

System.*out*.println("Please enter integer");

**return** **false**;

}

**return** **true**;

};

Day1 -> NaïveSort

Best way of passing by reference? Wrapup class?

<http://stackoverflow.com/questions/10907316/multiple-classes-and-main-method-in-java-and-packages-namespaces>

<http://stackoverflow.com/questions/4319537/how-do-i-pass-a-primitive-data-type-by-reference>

Static class, so that doesn’t need to Initialise a Util class??

Package? Can use one class from another java file without importing package?

“final”:

a final class cannot be extended

a final method cannot be overridden

final fields, parameters, and local variables cannot change their value once set

int[] numbers =

{1,2,3,4,5,6,7,8,9,10};

for (int item : numbers) {

System.out.println("Count is: " + item);

}

|  |  |  |
| --- | --- | --- |
|  | Rank | Suit |
| 8 Straight Flush | Consecutive | Same |
| 7 Poker | 4/5 same rank | - |
| 6 Full House | 2/3 | 2/3 |
| 5 Flush | Non-Consecutive | Same |
| 4 Straight | Consecutive | Non-Same |
| 3 of a Kind | 3/5 same rank | - |
| 2 Two Pairs | Two 2/5 same | - |
| 1 One Pair | 2/5 same | - |
| 1. Nothing |  |  |

What is the returning type when the “find” reach the end of the array? Null ?

Why hashset needs to include java.util.\*, not java.util.Set?

Need to re-shuffle the card if the exact same card appears more than twice, prob 1/13\*1//4 = 1/72 low

Two dimension array sort, comparator?

**Day3 -> Complex data type**

allocation memory in the heap, identified by the word “new”, using “constructor method”,;

When a complex type is declared, the computer only reserves the box for the pointer, but nothing else;

null pointer; NullPointerException

“auto-boxing”

int i1 = 1;

Integer i2 = 12;

If (i1==i2) … is legal

StringTokenizer st = new StringTokenizer(splitString, delims);

while (st.hasMoreElements()) {

System.out.println("StringTokenizer Output: " + st.nextElement());

}

StringTokenizer Output: one

StringTokenizer Output: two

StringTokenizer Output: three

StringTokenizer Output: four

StringTokenizer Output: five

String[] tokens = splitString.split(delims);

int tokenCount = tokens.length;

for (int j = 0; j < tokenCount; j++) {

System.out.println("Split Output: "+ tokens[j]);

}

Split Output: one

Split Output: two

Split Output:

Split Output: three

Split Output: four

Split Output:

Split Output: five

**Day3 -> Palindrom**

Convert char array to String

char[] myArr = new char[10];

Method 1: String str = new String(myArr);

Method 2: String str2 = String.valueOf(myArr);

Arrays.toString() doesn’t work, as it converts into [‘a’,’b’,…]

isLetter(), toLowerCase() is object Character methods

**Day3 -> Rectangle**

No access modifier for your constructor makes it **package private**. Assuming that First and Second are in the same package, you can call Second's constructors from first. Another class from another package, however, cannot access any of the constructors.

**Day3 -> EmailServer**

import java.lang.StringBuilder;

StringBuilder sb = new StringBuilder();

sb.append(…string);

sb.append(System.lineSeparator()); (in Java 7) or System.getProperty(“line.separator”);

gives the platform independent newline in java

String concatenate + operator, using StringBuilder behind the scene.

String.valueOf ( ) to convert char into string;

**Day4-> the difference between Scanner.next() and Scanner.nextLine();**

After executing .next(), the curser stops rightly after the next space, the same line; whereas after executing nextLine(), the cursor moves to the beginning of next line

**Day4->Decimal to Integer**

Int parseInt(String s, int radix), can convert s into an int

matches("[\\dA-Fa-f]+")) hexadecimal digit matches \d is number; A-Fa-f (A to F or A-F)

(st.matches("[\\d]+")) return true; every single digit is a number

char to int: Character.getNumericValue(int n);

int/char to string: String.valueOf(c);

chat to int: using ASCII Conversion cast: char c = int (0+48); output ‘0’; int n = (int) ‘A’; output 65;

**Day6 -> EmployeeFile**

when loop read the integer, make sure use s.next(). otherwise fall into infinite loop

private int readID(Scanner s) {

System.out.println("Please enter Employee ID: ");

while(!s.hasNextInt()) {

System.out.println("Invalid input, try again.");

s.next();

}

return s.nextInt();

}

Day6 -> be careful with the scanner;

shouldn’t read the value twice and be mindful of the placeholder;

nextLine() , placeholder returns the beginning of next line

next(); nextInt(), placeholder returns next space of the same line;

to reach a word after reading an int, should jump the placeholder by one line

private String readName(Scanner s) {

String temp = new String();

System.out.println("Please enter Employee Name: ");

if (count!=0) temp = s.nextLine();

temp = s.nextLine();

return temp;

}

**Day 7 -> LinkedList**

public class NodeImpl implements Node{

private Object data;

private Node pre;

private Node next;

NodeImpl(Object dataVal) {

data = dataVal;

pre = null;

next = null;

}

Node newSpy = new SpyImpl(dataValue);

why when the newSpy created, the data type is Node, not SpyImpl????

Day 8 -> Queue

Two ways of creating a list, either head is empty value, or head is part of the list

1. Head - - - - - - - - - - - - - - - - - - - - - > elem1 -> elem2 -> elem3 -> null
2. Head(elem1) - - - - - - - - - - - - - - - - - - - - - > elem2 -> elem3 -> null

Interface

Interface Queue {

Insert();

Retrieve();

…

}

Test Class {

…

Queue = new any of the implementation

Simple/Cluster/Normal…

}

QNode

Can SimpleQueue use the insert function method from ClusterQueue, and overwrite the function retrieve() ??

Class SimpleQueue {

Insert();

Retrieve();

}

Class ClusterQueue {

Insert();

Retrieve();

}

Class NormalQueue{

…

}

Class ArrayMap {

….

Class Entry {

Private final integer key;

Private String value;…

}

…

Public void main(String[] args) {

Entry e = new Entry();

e.value… (can use e.value or e.key directly? Even though they are private??)

e.key…

}

…

}