9/1/18

\*\*Java is a class\*\*

Data Structure:

Common feature

structure “holds” data/information access data.

Example:

“One type” of data

Array→ declare

store/populate/add

Access elements

Sort

Search if element “exists”

Data Elements:

insert /add

update/modify

Delete an element

Types of Class:

.csv

Matrix

Json

Linked List

Stack

Queue

Primitive data types

Int string double byte char

Referenced data types

Classes→ Student

Name

Address

“Object” Class

Default Constructor

Class: Blueprint

Defining

Instantiation of object

Class

Instance variable

Constructors

Methods:

Setter

Getter

\*business rules

Override is the subclass to modify the implementation of method defined in the superclass

toString()

Ch.13 Abstract Class & Interface 9/22/18

Abstract methods- are italicized

Geometric Object- the # sign indicated protected modifier.

* Requirements are color & filled.

An interference is defining common behavior for classes.

* Is a content with no definition
* Comparable (compareTo)

Student

to compare (student obj2)

-----------------------------------------------------------

Main

Student abc =new Student

Student xyz =new Student

abc.compareTo(xyz)

Array Data Structure

Stores a collection of the same type.

Restriction set size /fixed

Create the structure

New int[10];

Store/ insert data

Delete data

Update data

Access data

Example:

int [] temp =new int[10];

for (int i=0;i<temp.length;i++){

temp[i]=(i+1)\*10;

}

S.O.P. (temp[4]);

Generics<E./<T>

To check: google: array list java.

Stack push(0)

pop():0

empty():boolean

peek():0

push(2)

push(5)

push(7)

pop(2)

pop(5)

pop(7)

ABCDECEA

“C” remove

ABDEEA

Algorithm:

Add the class on stack

Remove one at a time

Check if c

True-discard

False-store on another stack

Pop from another & add to original

Stacks

Postfix notation

Solve postfix expression

Convert infix to postfix

Solve infix expression

Array

Stacks

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Linked List

Queues, Deques, Priority

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Sets & Maps

Infix Notation

a+b

Operand operator operand

Postfix

ab+

Prefix

+ab

Precedence Rule (PEMDAS)

Infix a=5 b=2 c=1

a+b+c a\*b+c a+b\*c

left--->right

PostFix

ab+c+ ab\*c+ (Example1)

abc\*+

b\*c

+c

Given a postfix?solve

Example 2.

a=3 b=2 c=5 d=6 e=2 f=2

ab+cde/-\*f+

32+562/\*2+

assumption : single digit operands

operators:+,-,\*,/

Int x,y,n

if operand

push(n)

else if operator

x=pop()

y=pop()

Switch statement to evaluate.

Stack problems (Paper)

Week 7

Queue - interface

First in, first out (FIFO)