4) a) Strategy Pattern

b)

interface SortAlgorithm {

void sort();

}

class Merge implements SortAlgorithm{

void sort(){.....};

}

class Insertion implements SortAlgorithm{

void sort(){...};

}

class StrategyPattern {

SortAlgorithm s;

THRESHOLD={constant value};

static void sorting(arrray,uppervalue,lowervalue){

if( array size is below THRESHOLD){

s = new Insertion();

}else{

s=new Merge();

}

s.sort(array,uppervalue,lowervalue);

}

}

class DemoClass{

main(){

StrategyPattern demo = new StrategyPattern();

demo.sorting(array,uppervalue,lowervalue);

}

}