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| **Duy Tan University**  International School  SE-MIS Program | **HOMEWORK ANSWER SHEET**  **Course: FUNDAMENTALS OF COMPUTING 1**  Class: BIS1  Semester …I…….. Academic Year: 2024-2025  Duration: | | **No:** |
| Student’s ID: … …30219263424……… …… Student’s name: …… Nguyễn Như Minh Đức … | | | |
| **Total marks** | **Examiner (Giám Khảo)** | **Supervisor (Giám Thị)** | |

**Exercise 1:**

Link github:

Code:

**Exercise 6 : Count Odd and Even Numbers**

**Generate 15 random numbers between 1 and 50 and store them in an ArrayList. Write a program to count how many numbers in the list are odd and how many are even.**

public class bai6 {

public static void main(String[] args) {

Scanner kb = new Scanner(System.in);

ArrayList<Integer> n = new ArrayList<>();

System.out.println("Enter 15 number: ");

for (int i = 0; i < 15; i++) {

System.out.println("Enter number " + (i + 1) + ": ");

n.add(kb.nextInt());

}

int odd = 0;

int even = 0;

for (int number : n) {

if (number % 2 == 0) {

even++;

} else {

odd++;

}

}

System.out.println("List number: " + n);

System.out.println("Number odd: " + odd);

System.out.println("Number even: " + even);

}

}

**Exercise 7:**

**Reverse an ArrayList Write a program to create an ArrayList of integers. Add five numbers to the list. Reverse the order of the elements in the list and display the reversed list**

public class bai7 {

public static void main(String[] args) {

Scanner kb = new Scanner(System.in);

ArrayList<Integer> n = new ArrayList<>();

System.out.println("Enter 5 number: ");

for (int i = 0; i < 5; i++) {

System.out.println("Enter number: " + (i + 1) + ": ");

n.add(kb.nextInt());

}

System.out.println("List number first: " + n);

ArrayList<Integer> reverse = new ArrayList<>();

for (int i = n.size() - 1; i >= 0; i--) {

reverse.add(n.get(i));

}

System.out.println("Number reverse last: " + reverse);

}

}

**Exercise 8: Copy an ArrayList Create an ArrayList of strings representing fruits. Add five fruit names to the list. Copy the elements of this list into another ArrayList and display both lists.**

public class bai8 {

public static void main(String[] args) {

Scanner kb = new Scanner(System.in);

ArrayList<String> n = new ArrayList<>();

System.out.println("Enter five fruits: ");

for (int i = 0; i < 5; i++) {

System.out.println("Enter fruits: " + (i + 1) + ": ");

n.add(kb.nextLine());

}

ArrayList<String> copy = new ArrayList<>(n);

System.out.println("List fruits fisrt: " + n);

System.out.println("List fruits last: " + copy);

}

}

**Exercise 9: Find the Largest and Smallest Element Write a program to create an ArrayList of integers. Add at least five numbers to the list. Find and display the largest and smallest elements in the list.**

public class bai9 {

public static void main(String[] args) {

Scanner kb = new Scanner(System.in);

ArrayList<Integer> n = new ArrayList<>();

System.out.println("Enter at least 5 integers:");

for (int i = 0; i < 5; i++) {

System.out.println("Enter integer " + (i + 1) + ": ");

n.add(kb.nextInt());

}

int max = n.get(0);

int min = n.get(0);

for (int i = 1; i < n.size(); i++) {

if (n.get(i) > max) {

max = n.get(i);

}

if (n.get(i) < min) {

min = n.get(i);

}

}

System.out.println("List of numbers: " + n);

System.out.println("Largest number: " + max);

System.out.println("Smallest number: " + min);

}

}

**Exercise 10: Remove Duplicates from an ArrayList Write a program to create an ArrayList of strings representing names. Add some names, including duplicates, to the list. Remove duplicate elements and display the list without duplicates.**

public class bai10 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

ArrayList<String> ten = new ArrayList<>();

System.out.print("Nhập số phần tử: ");

int n = scanner.nextInt();

scanner.nextLine();

for (int i = 0; i < n; i++) {

System.out.print("Tên thứ " + (i + 1) + ": ");

String tenn = scanner.nextLine();

ten.add(tenn);

}

System.out.println("Danh sách ban đầu: " + ten);

HashSet<String> uniqueNamesSet = new HashSet<>(ten);

ArrayList<String> uniqueNamesList = new ArrayList<>(uniqueNamesSet);

System.out.println("Danh sách không trùng lặp: " + uniqueNamesList);

}

}

**Exercise 11: Find the Maximum and Minimum**

**Create an ArrayList of 10 random integers between 1 and 100. Write a program to find and display the maximum and minimum numbers in the list.**

public class bai11 {

public static void main(String[] args){

ArrayList<Integer> so = new ArrayList<>();

Random random = new Random();

for(int i=0;i<10;i++){

int randomnumber = random.nextInt(100)+1;

so.add(randomnumber);

}

System.out.println("danh sach cac so la:" + so);

int max = so.get(0);

int min = so.get(0);

for(int i=1;i<so.size();i++){

if(so.get(i)>max){

max = so.get(i);

}

if(so.get(i)<min){

min = so.get(i);

}

}

System.out.println("so lon nhat trong danh sach la:" + max);

System.out.println("so nho nhat trong danh sach la:" + min);

}

}

**Exercise 12: Sum of Random Numbers**

**Generate 10 random numbers between 1 and 100, store them in an ArrayList, and calculate the sum of all the elements**.

public class bai12 {

public static void main(String[] args){

ArrayList<Integer> number = new ArrayList<>();

Random random = new Random();

for(int i=0;i<10;i++){

int randomnumber = random.nextInt(100)+1;

number.add(randomnumber);

}

System.out.println("danh sach cac so:" + number);

int sum = 0;

for(int hi : number){

sum+= hi;

}

System.out.println("tong cac phan tu la:" + sum);

}

}