

Paper CODE	EXAMINER	EMAIL OF EXAMINER	TEL
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1st SEMESTER 2023/24 FINAL EXAMINATION

Undergraduate – Year 1

INTRODUCTION TO PROGRAMMING IN JAVA

TIME ALLOWED: 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. This is a Closed-book examination. Please tick the integrity disclaimer when handing in your answer sheets. Please complete the assessment independently and honestly.
2. The total marks are 100.
3. The exam paper consists of 10 printed pages.

4. This exam consists of 2 sections:

Section A consists of single-choice questions with 20 questions worth for a total mark of 60.

Section B consists of coding tasks with 2 questions with 10 questions worth for a total mark of 40.

Answer all questions. There is NO penalty for providing a wrong answer.

5. Only English solutions are accepted. Answers need to be handwritten on answer sheets. Please clearly indicate the question numbers before your solutions. Please also indicate ONLY your student ID number on answer sheets.
6. The exam duration is 2 hours. If any major problems are preventing you from continuing the exam or submitting your answers in time, please do not hesitate to email the Module Examiner or Assessment Team of Registry (assessment@xjtlu.edu.cn).

Section A Multiple Choice (60 marks)

Section A removed

Section B Coding (40 marks)**1. (20 marks) Filling blanks.**

Complete the following code fragments where you can use nested for-loops to output the following pattern. You only need to write those blanks on your exam sheets. Blanks 2 is worth 2 mark and Blanks 1 and 3 are worth 1 mark.

```
#  
##  
###  
####  
#####
```

Code Fragment 1:

```
1. for (int i = 1; i <= 5; i++) {  
2.     for (int j = BLANK1; j <= BLANK2; BLANK3)  
3.         System.out.print('#');  
4.     System.out.println();  
5. }
```

Code Fragment 2:

```
1. for (int i = 0; i BLANK4 5; i++) {  
2.     for (int j = 1; j <= BLANK5; j++)  
3.         System.out.print('#');  
4.     System.out.println();  
5. }
```

Code Fragment 3:

```
1. for (int i = 0; i < 5; i++) {  
2.     for (int j = 0; j <= i; j++)  
3.         System.out.print('#');  
4.     System.out.println();  
5. }
```

(4 marks) BLANK1_____

(4 marks) BLANK2_____

(4 marks) BLANK3_____

(4 marks) BLANK4_____

(4 marks) BLANK5_____

2. (20 marks) Filling Blanks: Deal Integer List

Write a method **getAns** with a parameter of int list named **list**.

Please output an integer which represent the difference between the sum of the odd elements and the sum of the even elements. (The difference should be a **Positive** number)

Examples of input/output:

- `getAns(new int[]{1, 2, 3});` → should **return 2** since $1 + 3 - 2 = 2$
- `getAns(new int[]{1, 3});` → should **return 4** since $1 + 3 = 4$
- `getAns(new int[]{2, 4});` → should **return 6** since $2 + 4 = 6$
- `getAns(new int[]{2, 4, 1});` → should **return 5** since $2 + 4 - 1 = 5$

NOTE: The method **getAns** needs to be defined as **public static** like we have been doing so far in the course.

NOTE: Do not add a **main** method to solution code.

```
1. public static int getAns(int[] list){
2.     int ans = 0;
3.     for (int i = 0; i < BLANK1; i++) {
4.         if(list[i] % 2 == 0)
5.             ans -= BLANK2;
6.         BLANK3
7.             ans += list[i];
8.     }
9.     if (BLANK4) return -ans;
10.    else return ans;
11. BLANK5
```

(4 marks) BLANK1 _____

(4 marks) BLANK2 _____

(4 marks) BLANK3 _____

(4 marks) BLANK4 _____

(4 marks) BLANK5 _____

-----End of Paper-----