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| No. of Pages | 2 |
| No. of Questions | 2 |
| Total Marks | 24 |
| **Time**: 50 minutes | |

B

**Department of Computer Science and Engineering**

**MIDTERM EXAMINATION Fall 2018**

**CSE 110: Programming Language I**

**CSE 161: Computer Programming**

* Write intial (AAR/AKO/AMH/DSH/FSH/JNM/MSI/MSN/NSM/SBI/SHA) of theory teacher and section on top of the answer script
* Answer all questions. Use**back part** of the the answer script for rough work.
* Answer Question 1 at the **beginning part** of answer script.
* Write answer of Question 2**on the question paper**.
* Figure in bracket [] next to each question indicates marks for that question.
* At the end of exam, put **question paper** inside answer script and **return both**.
* Understanding the question is part of the exam, please do not ask questions.**No washroom breaks.**

Section: \_\_\_\_\_\_ ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name in CAPITAL: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Names/initials of Lab Teachers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lab Room Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lab Day and Time\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Question 1 [10 Points]**

**[Answer on the answer-script]**

Draw the flowchart of a program that asks the user for **hour** as input and prints a **message**, which time of the day it is, based on the following table. For example, if user gives 8, print “early”, if user types, 12, output is “mid-day”etc.

* **Input Validation:** Valid/correct hoursare between 0 to 23 (based on 24 hour clock). If input falls outside this range, print “wrong input”. For example, if user gives 24 or negative numbers, print “wrong input”.
* **Out of Range Values:** For valid hours not mentioned in the table, print “unknown”. e.g. if user gives 18, print “unknown”.

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| **Hour (input)** | **Message (output)** |  | **Hour (input)** | **Message (output)** |
| 6 | early |  | 12 | mid-day |
| 7 | early |  | 13 | mid-day |
| 8 | early |  | 14 | mid-day |
| 9 | early |  | 15 | late |
| 10 | early |  | 16 | late |
| 11 | early |  | 17 | late |

**Question 2 [14Points]**[answer on question paper]

|  |  |
| --- | --- |
|  | **public class Q2B {** |
|  | **public static void main(String[] args) {** |
|  | **int x = 1, y = 0, sum = 0;** |
|  | **while (x < 10) {** |
|  | **y = 40;** |
|  | **while (y > 22) {** |
|  | **if ((sum > 40) || (sum < 100)) {** |
|  | **sum += x \* 2;** |
|  | **}** |
|  | **if ((sum > 20) || (sum < 60)) {** |
|  | **sum += x \* 3;** |
|  | **} else {** |
|  | **sum += 23;** |
|  | **}** |
|  | **System.out.println(sum+x);** |
|  | **y -= 10;** |
|  | **}** |
|  | **x += 2;** |
|  | **}** |
|  | **int a=sum++,b=2,c=4000;** |
|  | **int d=a+=b+=c+=50;** |
|  | **System.out.println(a);** |
|  | **System.out.println(b);** |
|  | **System.out.println(c);** |
|  | **System.out.println(d);** |
|  | **}** |
|  | **}** |

**Show output of the above program:**[Answer on the question paper. **There are NO errors / mistakes in this question. The question is correct.**]

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