|  |  |
| --- | --- |
| No. of Pages | 2 |
| No. of Questions | 2 |
| Total Marks | 23 |
| **Time**: 1 Hour | |

**Department of Computer Science and Engineering**

A

**MIDTERM EXAMINATION Spring 2016**

**CSE 110: Programming Language I**

* Write intial/name of theory teacher and section on top of the answer script
* Answer all questions. Use the answer script for rough work.
* 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 Time \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(UB 40101/40201/40203/40301 /50302) (8🡪11 / 11🡪2 **/** 2🡪5)

**Question 1 [10 Points]**

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

Draw **flowchart** of a program that asks the user for two numbers, **rangeStart** and **rangeEnd.** Printall **PERFECT** numbers that fall between that range and how many numbers were there.

|  |  |  |
| --- | --- | --- |
| **Example No.** | **Inputs for the example** | **Output for the example** |
| 1 | 5, 30 | 6, 28  Total 2 perfect number(s) |
| 2 | 2, 6 | 6  Total 1 perfect number(s) |

**Question 2 [*13* Points]**[answer on question paper]

|  |
| --- |
| **public class Q2a {** |
| **public static void main(String[] args) {** |
| **int x = 0, y = 0, sum = 0;** |
| **double p;** |
| **while(x < 20) {** |
| **y = x / 2;** |
| **while(y < x) {** |
| **p = (x + 15.0)/2;** |
| **sum = (sum + 3) + x + y \* 3 + (int)p;** |
| **System.out.println(sum);** |
| **y += 3;** |
| **}** |
| **x += 3;** |
| **}** |
| **System.out.println("sum = (sum + 3) + x + y \* 3 + (int)p");** |
| **}** |
| **}** |

**Output** [Answer on the question paper, Draw more boxes if necessary]

|  |
| --- |
| **18** |
| **46** |
| **82** |
| **127** |
| **173** |
| **228** |
| **282** |
| **345** |
| **417** |
| **481** |
| **554** |
| **636** |
| **sum = (sum + 3) + x + y \* 3 + (int)p** |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |