

National University of Computer and Emerging Sciences

Software Re-engineering (SE4001) Exercise

Date: April 24th 2024

Course Instructor(s)

Dr. Syed Muazzam Ali Shah

Total Time: 30 minutes

Total Marks: 10

Total Questions: 02

Semester: SP-2024

Campus: Karachi

Dept: Software Engineering

Student Name

Roll No

Section

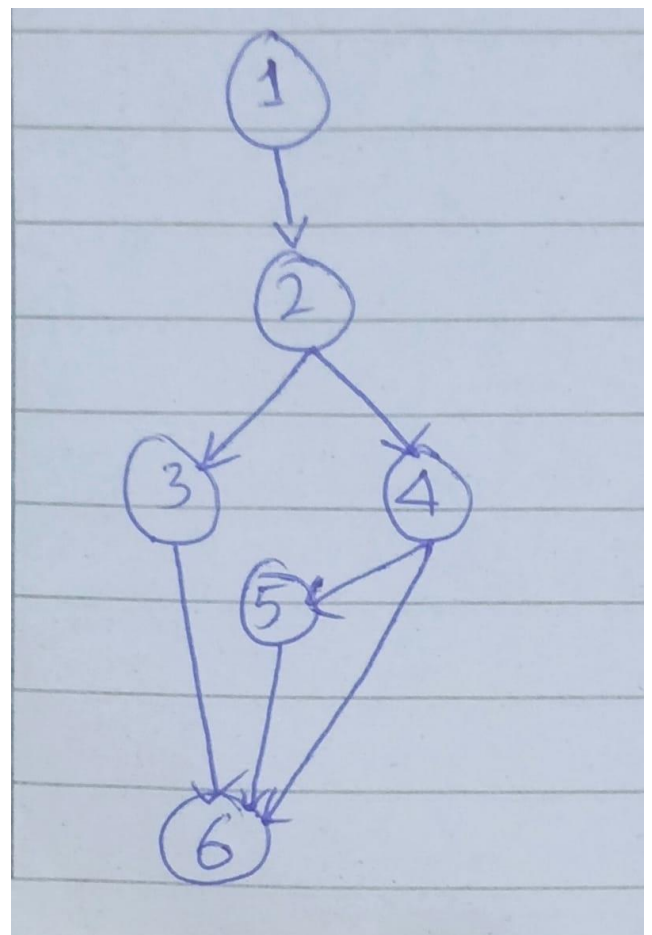
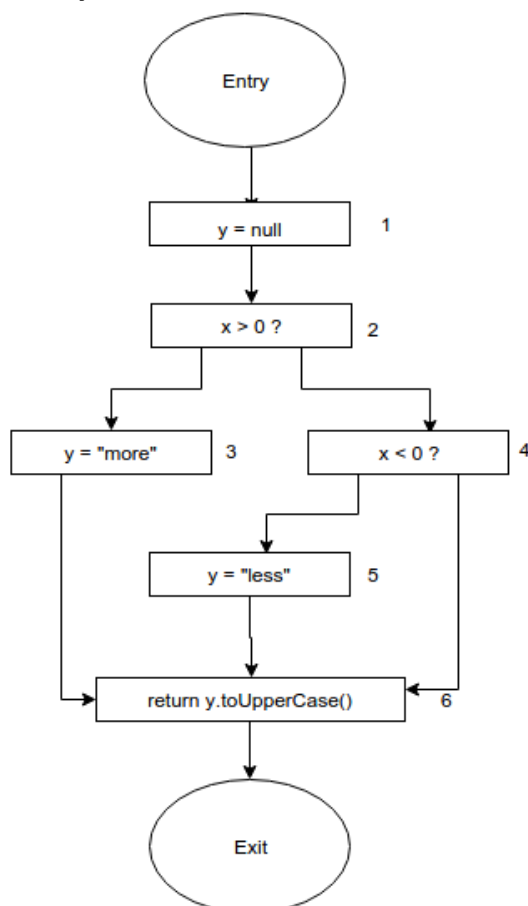
Student Signature

Q1: Draw the control flow diagram for the following program:

Draw the control flow diagram for the following program:

```
public String badCode(int x) {  
    String y = null;  
    if (x > 0) {  
        y = "more";  
    } else if (x < 0) {  
        y = "less";  
    }  
    return y.toUpperCase();  
}
```

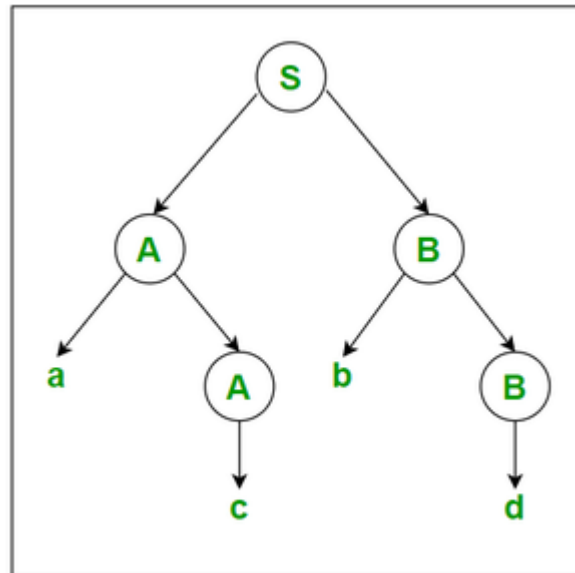
Data Flow analysis:



Q2: Generate a parse tree using the following language ($S \rightarrow AB$) the control flow diagram for the following program:

$S \rightarrow AB$
 $A \rightarrow c/aA$
 $B \rightarrow d/bB$

The input string is “acbd”, then the Parse Tree is as follows:



$S \rightarrow sAB$
 $A \rightarrow a$
 $B \rightarrow b$

The input string is “sab”, then the Parse Tree is:

