**Lab 3**

**Part 1**- *Repair the Broken Code*

package lab3;

public class Lab3{

public static void main(String[] args){

int grade; //represents a student grade for testing purposes.

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/\* Section A

\* This section of code should display the messages "You Pass!" and

\* "Please sign up for C202" on two lines when a student has an average

\* of 75 or higher.

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System.out.print("Section A Output:");

grade = 85;

if (grade >= 75){

System.out.println("\nYou Pass!");

System.out.println("Please sign up for C202");

}

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/\* Section B

\* This section of code should display the message "Pass" or "Fail" depending

\* on the student's grade (75 or higher is passing).

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System.out.println("Section B Output:");

grade = 70;

if (grade >= 75){

System.out.println("Pass!");

}// if grade is greater than 75

else{

System.out.println("Fail");

}

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/\* Section C

\* This section of code should display the message "Perfect!" when a

\* student's average is exactly 100

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System.out.println("Section C Output:");

grade = 100;

if (grade == 100){

System.out.println("Perfect!");

}// grade is more than 100 so the

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/\* Section D

\* This section of code should display the message "You got an A!" when a

\* student's average is between 90 and 100 inclusive

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System.out.println("Section D Output:");

grade = 95;

if (grade >= 90 && grade <= 100){

System.out.println("You got an A!");

}// if grade is more than 90 and less than 100 you pass

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/\* Section E

\* This section of code should display the message "Sorry, you failed" when a

\* student's average is greater than or equal to 0 and less than 60

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System.out.println("Section E Output:");

grade = 50;

if (0 <= grade && grade < 60){

System.out.println("Sorry, you failed");

}// grades are less than 60 fail and more than

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/\* Section F

\* This section of code should display the message "Bonus!" when a

\* student's average is over 100

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System.out.println("Section F Output:");

grade = 110;

if (grade > 100)

System.out.println("Bonus!");

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/\* Section G

\* This section of code should display a grade of A, B, C, D, or F

\* depending on the student's average, using the standard cutoffs of

\* 60, 70, 80, and 90

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System.out.println("Section G Output:");

grade = 95;

if (grade >= 90)

System.out.println("A grade of " + grade + " is a A");

else if (grade >= 80)

System.out.println("A grade of " + grade + " is a B");

else if (grade >= 70)

System.out.println("A grade of " + grade + " is C");

else if (grade >= 60)

System.out.println("A grade of " + grade + " is an D");

else

System.out.println("A grade of " + grade + " is an F");

}//class

}//main

**Output: Part 1**

run:

Section A Output:

You Pass!

Please sign up for C202

Section B Output:

Fail

Section C Output:

Perfect!

Section D Output:

You got an A!

Section E Output:

Sorry, you failed

Section F Output:

Bonus!

Section G Output:

A grade of 95 is a A

BUILD SUCCESSFUL (total time: 1 second)

**Part II**- *Leap year program*

package lab3;

import java.util.Scanner;

public class LeapYear {

public static void main(String[] args) {

Scanner kb = new Scanner(System.in);

System.out.print("Enter the month number:");

int month = kb.nextInt();

System.out.println("month = " + month);

if ((month == 1)||(month ==7)||(month == 3)||(month == 5)||(month == 8)||(month == 10)||(month == 12))

System.out.println("Has 31 days");

else if ((month == 4)||(month == 6)||(month == 9)||(month == 11))

System.out.println("Has 30 days");

else if (month ==2){

System.out.print("Enter a year: ");

int year = kb.nextInt();

// Check if the year is a leap year

boolean isLeapYear =

(year % 4 == 0 && year % 100 != 0) || (year % 400 == 0);

if (isLeapYear)

System.out.println( year + "\nis a leap year \nit has 29 days.");

else

System.out.println("Has 28 days");

}//feb

else

System.out.println("Invalid");

}//Class

}//Main

**Output:Part II**

(Regular Test)

run:

Enter the month number:9

month = 9

Has 30 days

BUILD SUCCESSFUL (total time: 2 seconds)

(Leap year test)

run:

Enter the month number:2

month = 2

Enter a year: 1987

Has 28 days

BUILD SUCCESSFUL (total time: 8 seconds)

(Leap Year Run)

run:

Enter the month number:2

month = 2

Enter a year: 2000

2000

is a leap year

it has 29 days.

BUILD SUCCESSFUL (total time: 6 seconds)

(Invalid Run)

run:

Enter the month number:13

month = 13

Invalid

BUILD SUCCESSFUL (total time: 2 seconds)

(Non-Leap Year Run)

run:

Enter the month number:2

month = 2

Enter a year: 1987

Has 28 days

BUILD SUCCESSFUL (total time: 6 seconds)

**Part III-** *Days of the week program*

package lab3;

import java.util.Scanner;

/\*\*

\*

\* @author gawitt

\*/

public class DaysofWeek {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.println("Enter a Character");

String S = input.nextLine();

S = S.toUpperCase();

char DaysOfWeek = S.charAt(0);

switch (DaysOfWeek){

case 'M': System.out.println("Monday"); break;

case 'T': System.out.println("Tuesday"); break;

case 'W': System.out.println("Wednesday"); break;

case 'R': System.out.println("Thursday"); break;

case 'F': System.out.println("Friday"); break;

}// Switch

}//Main

}//Class

(Run for Monday)

run:

Enter a Character

M

Monday

BUILD SUCCESSFUL (total time: 2 seconds)

(Run for Tuesday)

run:

Enter a Character

T

Tuesday

BUILD SUCCESSFUL (total time: 2 seconds)

(Run For Wednesday)

run:

Enter a Character

W

Wednesday

BUILD SUCCESSFUL (total time: 3 seconds)

(Run for Thursday)

run:

Enter a Character

R

Thursday

BUILD SUCCESSFUL (total time: 2 seconds)

(Run for Friday)

run:

Enter a Character

F

Friday

BUILD SUCCESSFUL (total time: 3 seconds)