



# IDP0123 - Principle of Programming Assignment Slip Result Generator

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## Phase 1 Analyzing a Problem

Input	Process	Output
name id prog  cwpchm fmpchm cwpop fmpop cwcla fmcla cwkl fmkl cwkc fmkc cwcl fmcl cwbd fmbd cwicc fmicc	Prompt for name Get name  Prompt for id Get id  Prompt for prog Get prog  Prompt for all coursework mark Get all coursework mark Prompt for all final mark Get all final mark  Determine grade, status and point for all subjects using IF-else-IF based on their total mark  and cgpa  Display all required for the result such as grade, status, point, total point, gpa and cgpa.	name id prog  gradepchm gradepop gradecla gradekl gradekc gradecl gradebd gradeicc  ptpchm ptppop ptcla ptkl ptkc ptcl ptbc pticc  cwpchm cwpop cwcla cwkl cwkc cwcl cwbd cwicc  fmpchm fmpop fmcla fmkl fmkc fmcl fmbd fmicc  totalpchm totalpop totalcla totalkl totalkc totalcl totalbd totalicc

		statuspchm statuspop statuscla statuskl statuskc statuscl statusbd statusicc  totalptpchm totalptpop totalptcla totalptkl totalptkc totalptcl totalptbd totalpticc  gpa cgpa
--	--	---

Short form words used in the table above are as below:

cw - Coursework mark  
fm - Final mark  
pt - Point  
totalpt - Total point  
pchm - PC Hardware and Maintenance  
pop - Principle of Programming  
cla - Cinematic Language and Appreciation  
kl - Korean Language  
kc - Korean Communication  
cl - Calculus  
bd - Basic Drawing  
icc - Introduction to Intercultural Communication  
gpa - Grade Point Average  
cgpa - Cumulative Grade Point Average

## Phase 2 (Develop Algorithm)

Result\_slip

Prompt for student name

Get student name

Prompt for student id

Get student id

Prompt for prog

Get prog

Prompt for cwpchm

Get cwpchm

Prompt for fmpchm

Get fmpchm

$\text{totalpchm} = \text{cwpchm} / 100 * 50 + \text{fmpchm} / 100 * 50$

IF totalpchm >= 80 THEN

    gradepchm = "A"

    statuspchm = "PASS"

    ptpchm = 4.00

ELSE IF totalpchm >= 75 THEN

    gradepchm = "A-"

    statuspchm = "PASS"

    ptpchm = 3.67

ELSE IF totalpchm >= 70 THEN

    gradepchm = "B+"

    statuspchm = "PASS"

    ptpchm = 3.33

    ELSE IF totalpchm >= 65 THEN

        gradepchm = "B"

        statuspchm = "PASS"

        ptpchm = 3.00

    ELSE IF totalpchm >= 60 THEN

        gradepchm = "B-"

        statuspchm = "PASS"

        ptpchm = 2.67

    ELSE IF totalpchm >= 55 THEN

        gradepchm = "C+"

        statuspchm = "PASS"

        ptpchm = 2.33

    ELSE IF totalpchm >= 50 THEN

        gradepchm = "C"

        statuspchm = "PASS"

        ptpchm = 2.00

    ELSE IF totalpchm >= 45 THEN

        gradepchm = "C-"

        statuspchm = "PASS"

        ptpchm = 1.67

    ELSE IF totalpchm >= 40 THEN

        gradepchm = "D"



```

                                gradepop = "C"
                                statuspop = "PASS"
                                ptpop = 2.00
                                ELSE IF totalpop >= 45 THEN
                                    gradepop = "C-"
                                    statuspop = "PASS"
                                    ptpop = 1.67
                                    ELSE IF totalpop >= 40 THEN
                                        gradepop = "D"
                                        statuspop = "PASS"
                                        ptpop = 1.00
                                    ELSE
                                        gradepop = "F"
                                        statuspop = "FAIL"
                                        ptpop = 0.00
                                    ENDIF
                                ENDIF
                            ENDIF
                        ENDIF
                    ENDIF
                ENDIF
            ENDIF
        totalptpop = ptpop * 3
ELSE
    Prompt for cwcla
    Get cwcla
    Prompt for fmcla
    Get fmcla
    totalcla = cwcla / 100 * 50 + fmcla / 100 * 50

    IF totalcla >= 80 THEN
        gradecla = "A"
        statuscla = "PASS"
        ptcla = 4.00
        ELSE IF totalcla >= 75 THEN
            gradecla = "A-"
            statuscla = "PASS"
            ptcla = 3.67
        ELSE IF totalcla >= 70 THEN
            gradecla = "B+"
            statuscla = "PASS"
            ptcla = 3.33
        ELSE IF totalcla >= 65 THEN
            gradecla = "B"
            statuscla = "PASS"
            ptcla = 3.00
        ELSE IF totalcla >= 60 THEN

```

```

        gradecla = "B-"
        statuscla = "PASS"
        ptcla = 2.67
    ELSE IF totalcla >= 55 THEN
        gradecla = "C+"
        statuscla = "PASS"
        ptcla = 2.33
    ELSE IF totalcla >= 50 THEN
        gradecla = "C"
        statuscla = "PASS"
        ptcla = 2.00
    ELSE IF totalcla >= 45 THEN
        gradecla = "C-"
        statuscla = "PASS"
        ptcla = 1.67
    ELSE IF totalcla >= 40 THEN
        gradecla = "D"
        statuscla = "PASS"
        ptcla = 1.00
    ELSE
        gradecla = "F"
        statuscla = "FAIL"
        ptcla = 0.00
    ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
totalptcla = ptcla * 3
ENDIF

Prompt for cwkl
Get cwkl
Prompt for fmkl
Get fmkl
totalkl = cwkl / 100 * 50 + fmkl / 100 * 50

IF totalkl >= 80 THEN
    gradekl = "A"
    statuskl = "PASS"
    ptkl = 4.00
ELSE IF totalkl >= 75 THEN
    gradekl = "A-"
    statuskl = "PASS"
    ptkl = 3.67
ELSE IF totalkl >= 70 THEN

```



```

gradekl = "B+"
statuskl = "PASS"
ptkl = 3.33
    ELSE IF totalkl >= 65 THEN
        gradekl = "B"
        statuskl = "PASS"
        ptkl = 3.00
            ELSE IF totalkl >= 60 THEN
                gradekl = "B-"
                statuskl = "PASS"
                ptkl = 2.67
                    ELSE IF totalkl >= 55 THEN
                        gradekl = "C+"
                        statuskl = "PASS"
                        ptkl = 2.33
                            ELSE IF totalkl >= 50 THEN
                                gradekl = "C"
                                statuskl = "PASS"
                                ptkl = 2.00
                                    ELSE IF totalkl >= 45 THEN
                                        gradekl = "C-"
                                        statuskl = "PASS"
                                        ptkl = 1.67
                                            ELSE IF totalkl >= 40 THEN
                                                gradekl = "D"
                                                statuskl = "PASS"
                                                ptkl = 1.00
                                                    ELSE
                                                        gradekl = "F"
                                                        statuskl = "FAIL"
                                                        ptkl = 0.00
                                                        ENDIF
                                                    ENDIF
                                                ENDIF
                                            ENDIF
                                        ENDIF
                                    ENDIF
                                ENDIF
                            ENDIF
                        ENDIF
                    ENDIF
                ENDIF
            ENDIF
        ENDIF
    ENDIF
totalptkl = ptkl * 4

Prompt for cwkc
Get cwkc
Prompt for fmkc
Get fmkc
totalkc = cwkc / 100 * 50 + fmkc / 100 * 50

```

```

IF totalkc >= 80 THEN
    gradekc = "A"
    statuskc = "PASS"
    ptkc = 4.00
ELSE IF totalkc >= 75 THEN
    gradekc = "A-"
    statuskc = "PASS"
    ptkc = 3.67
ELSE IF totalkc >= 70 THEN
    gradekc = "B+"
    statuskc = "PASS"
    ptkc = 3.33
ELSE IF totalkc >= 65 THEN
    gradekc = "B"
    statuskc = "PASS"
    ptkc = 3.00
ELSE IF totalkc >= 60 THEN
    gradekc = "B-"
    statuskc = "PASS"
    ptkc = 2.67
ELSE IF totalkc >= 55 THEN
    gradekc = "C+"
    statuskc = "PASS"
    ptkc = 2.33
ELSE IF totalkc >= 50 THEN
    gradekc = "C"
    statuskc = "PASS"
    ptkc = 2.00
ELSE IF totalkc >= 45 THEN
    gradekc = "C-"
    statuskc = "PASS"
    ptkc = 1.67
ELSE IF totalkc >= 40 THEN
    gradekc = "D"
    statuskc = "PASS"
    ptkc = 1.00
ELSE
    gradekc = "F"
    statuskc = "FAIL"
    ptkc = 0.00
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
totalptkc = ptkc * 4

```

```
IF prog == 1 THEN
    Prompt for cwcl
    Get cwcl
    Prompt for fmcl
    Get fmcl
    totalcl = cwcl / 100 * 50 + fmcl / 100 * 50
```

```
IF totalcl >= 80 THEN
    gradecl = "A"
    statuscl = "PASS"
    ptcl = 4.00
ELSE IF totalcl >= 75 THEN
    gradecl = "A-"
    statuscl = "PASS"
    ptcl = 3.67
ELSE IF totalcl >= 70 THEN
    gradecl = "B+"
    statuscl = "PASS"
    ptcl = 3.33
ELSE IF totalcl >= 65 THEN
    gradecl = "B"
    statuscl = "PASS"
    ptcl = 3.00
ELSE IF totalcl >= 60 THEN
    gradecl = "B-"
    statuscl = "PASS"
    ptcl = 2.67
ELSE IF totalcl >= 55 THEN
    gradecl = "C+"
    statuscl = "PASS"
    ptcl = 2.33
ELSE IF totalcl >= 50 THEN
    gradecl = "C"
    statuscl = "PASS"
    ptcl = 2.00
ELSE IF totalcl >= 45 THEN
    gradecl = "C-"
    statuscl = "PASS"
    ptcl = 1.67
ELSE IF totalcl >= 40 THEN
    gradecl = "D"
    statuscl = "PASS"
    ptcl = 1.00
ELSE
    gradecl = "F"
    statuscl = "FAIL"
    ptcl = 0.00
```

```

ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
totalptcl = ptcl * 4

```

```

ELSE
    Prompt for cwbd
    Get cwbd
    Prompt for fmbd
    Get cwbd
    totalbd = cwbd / 100 * 50 + fmbd / 100 * 50

```

```

IF totalbd >= 80 THEN
    gradebd = "A"
    statusbd = "PASS"
    ptbd = 4.00
ELSE IF totalbd >= 75 THEN
    gradebd = "A-"
    statusbd = "PASS"
    ptbd = 3.67
ELSE IF totalbd >= 70 THEN
    gradebd = "B+"
    statusbd = "PASS"
    ptbd = 3.33
ELSE IF totalbd >= 65 THEN
    gradebd = "B"
    statusbd = "PASS"
    ptbd = 3.00
ELSE IF totalbd >= 60 THEN
    gradebd = "B-"
    statusbd = "PASS"
    ptbd = 2.67
ELSE IF totalbd >= 55 THEN
    gradebd = "C+"
    statusbd = "PASS"
    ptbd = 2.33
ELSE IF totalbd >= 50 THEN
    gradebd = "C"
    statusbd = "PASS"
    ptbd = 2.00
ELSE IF totalbd >= 45 THEN
    gradebd = "C-"
    statusbd = "PASS"
    ptbd = 1.67

```

```

ELSE IF totalbd >= 40 THEN
    gradebd = "D"
    statusbd = "PASS"
    ptbd = 1.00
ELSE
    gradebd = "F"
    statusbd = "FAIL"
    ptbd = 0.00
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
totalptbd = ptbd * 4
ENDIF

```

```

Prompt for cwicc
Get cwicc
Prompt for fmicc
Get fmicc
totalicc = cwicc / 100 * 50 + fmicc / 100 * 50

```

```

IF totalicc >= 80 THEN
    gradeicc = "A"
    statusicc = "PASS"
    pticc = 4.00
ELSE IF totalicc >= 75 THEN
    gradeicc = "A-"
    statusicc = "PASS"
    pticc = 3.67
ELSE IF totalicc >= 70 THEN
    gradeicc = "B+"
    statusicc = "PASS"
    pticc = 3.33
ELSE IF totalicc >= 65 THEN
    gradeicc = "B"
    statusicc = "PASS"
    pticc = 3.00
ELSE IF totalicc >= 60 THEN
    gradeicc = "B-"
    statusicc = "PASS"
    pticc = 2.67
ELSE IF totalicc >= 55 THEN
    gradeicc = "C+"
    statusicc = "PASS"
    pticc = 2.33

```

```

ELSE IF totalicc >= 50 THEN
    gradeicc = "C"
    statusicc = "PASS"
    pticc = 2.00
    ELSE IF totalicc >= 45 THEN
        gradeicc = "C-"
        statusicc = "PASS"
        pticc = 1.67
        ELSE IF totalicc >= 40 THEN
            gradeicc = "D"
            statusicc = "PASS"
            pticc = 1.00
        ELSE
            gradeicc = "F"
            statusicc = "FAIL"
            pticc = 0.00
        ENDIF
    ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
ENDIF
totalpticc = pticc * 2
totalpt = totalptpop + totalpticc + totalptkc + totalptkl + totalptcl + totalptpchm
gpa = totalpt / 20
cgpa = gpa
Display "University Kuala Lumpur"
Display "Result Slip Semester July 2020"
Display "Name   : " + name
Display "Student ID : " + id
Display "Program   : FOUNDATION IN SCIENCE AND TECHNOLOGY FOR KOREAN
UNIVERSITY "
Display "Semester : 1"
Display "Credit Hour\tGrade\tPoint\tCoursework   " + "Final\tTotal\tStatus\tTotal Point"
Display "1. IDP01103 - INTRODUCTION TO PC HARDWARE AND MAINTENANCE 3" +
gradepchm + ptpchm + cwpchm + fmpchm + totalpchm + statuspchm + totalptpchm

IF prog == 1 THEN
    Display "2. IDP01203 - PRINCIPLES OF PROGRAMMING "+ 3 + gradeppop + ptpop +
cwpop + fmpop + totalpop + statuspop + totalptpop
ELSE
    Display "2. IDP07303 - CINEMATIC LANGUAGE AND APPRECIATION "+ 3 + gradecla +
ptcla + cwcla + fmcla + totalcla + statuscla + totalptcla
ENDIF

Display "3. IDP06904 - KOREAN LANGUAGE 1 "+ 4 + gradekl + ptkl + cwkl + fmkkl + totalkl
+ statuskl + totalptkl

```

Display "4. IDP070 THEN04 - KOREAN COMMUNICATION 1 "+ 4 + gradekc + ptkc + cwkc +  
fmkc + totalkc + statuskc + totalptkc

IF prog == 1 THEN

Display "5. IDP07104 - CALCULUS 1 "+ 4 + gradecl + ptcl + cwcl + fmcl + totalcl +  
statuscl + totalptcl

ELSE

Display "5. IDP08704 - BASIC DRAWING "+ 4 + gradebd + ptbd + cwbd + fmbd +  
totalbd + statusbd + totalptbd

ENDIF

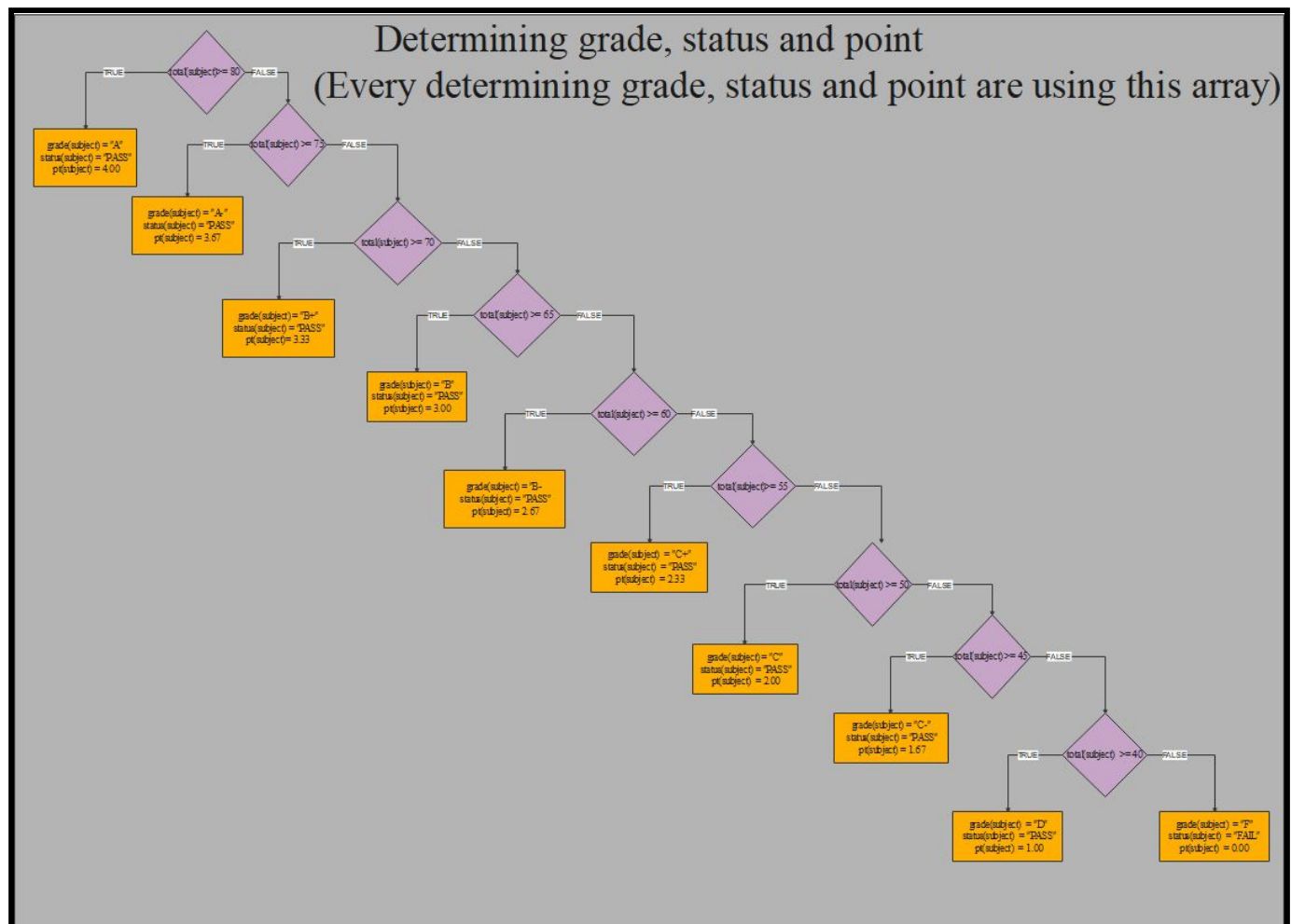
Display "6. IDP07202 - INTRODUCTION TO INTERCULTURAL COMMUNICATION 2" +  
gradeicc + pticc + cwicc + fmicc + totalicc + statusicc + totalpticc

Display "Total" + " 20" + totalpt

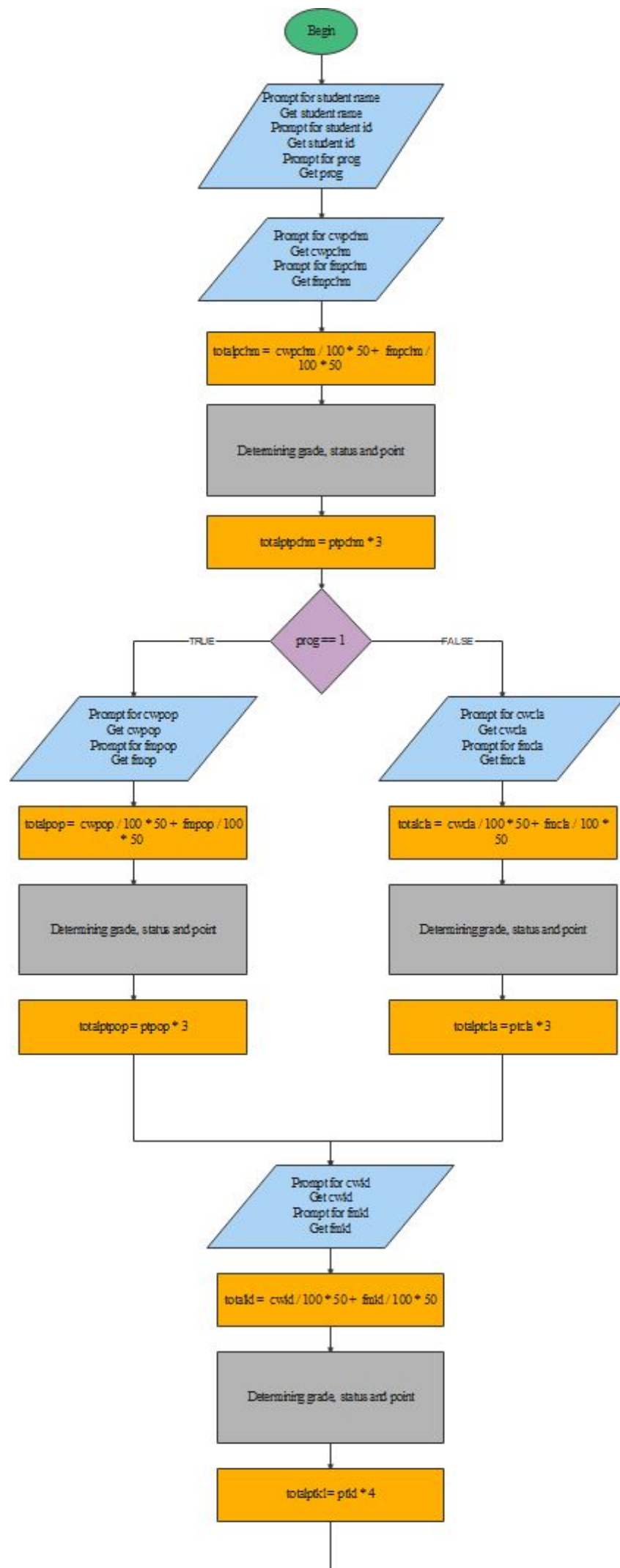
Display "GPA: " + gpa + "CGPA: " + cgpa

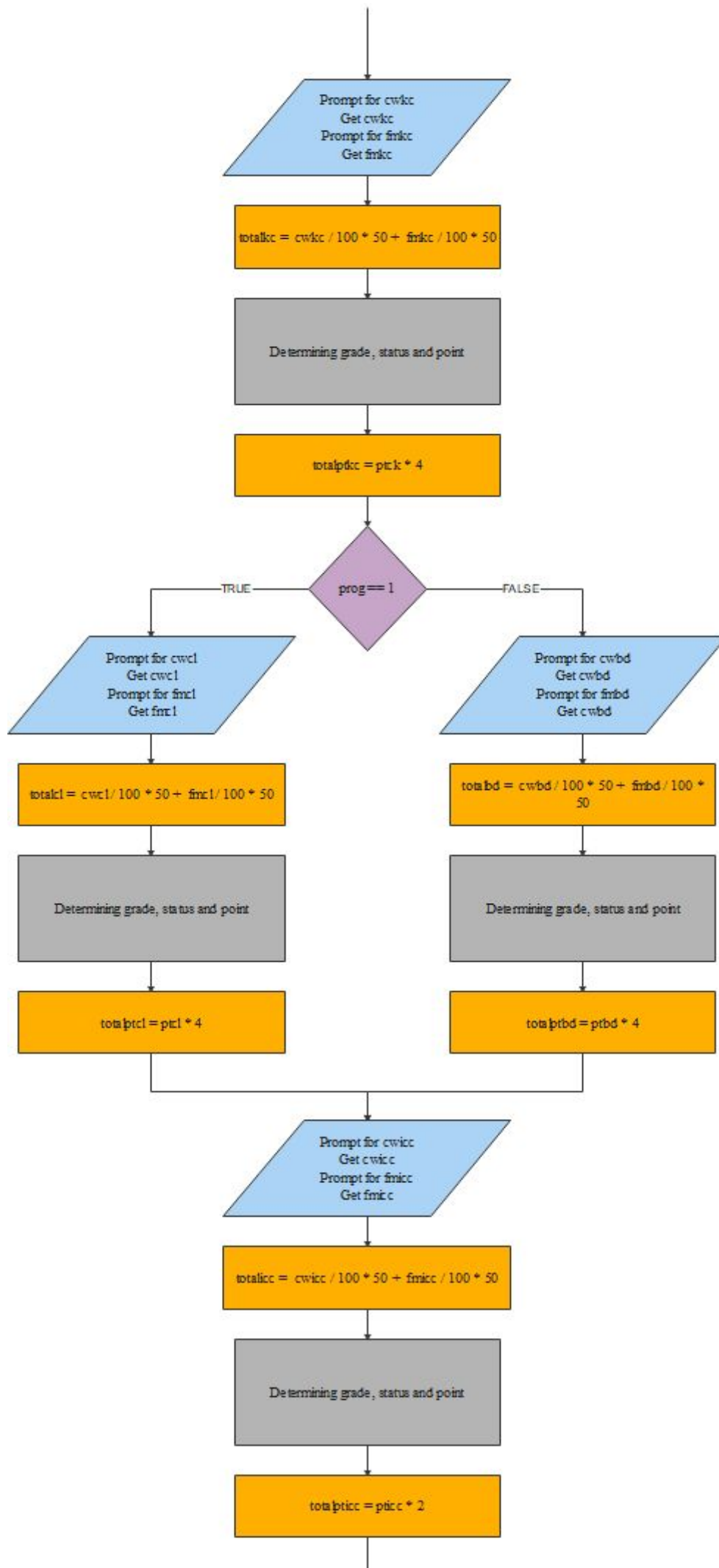
END

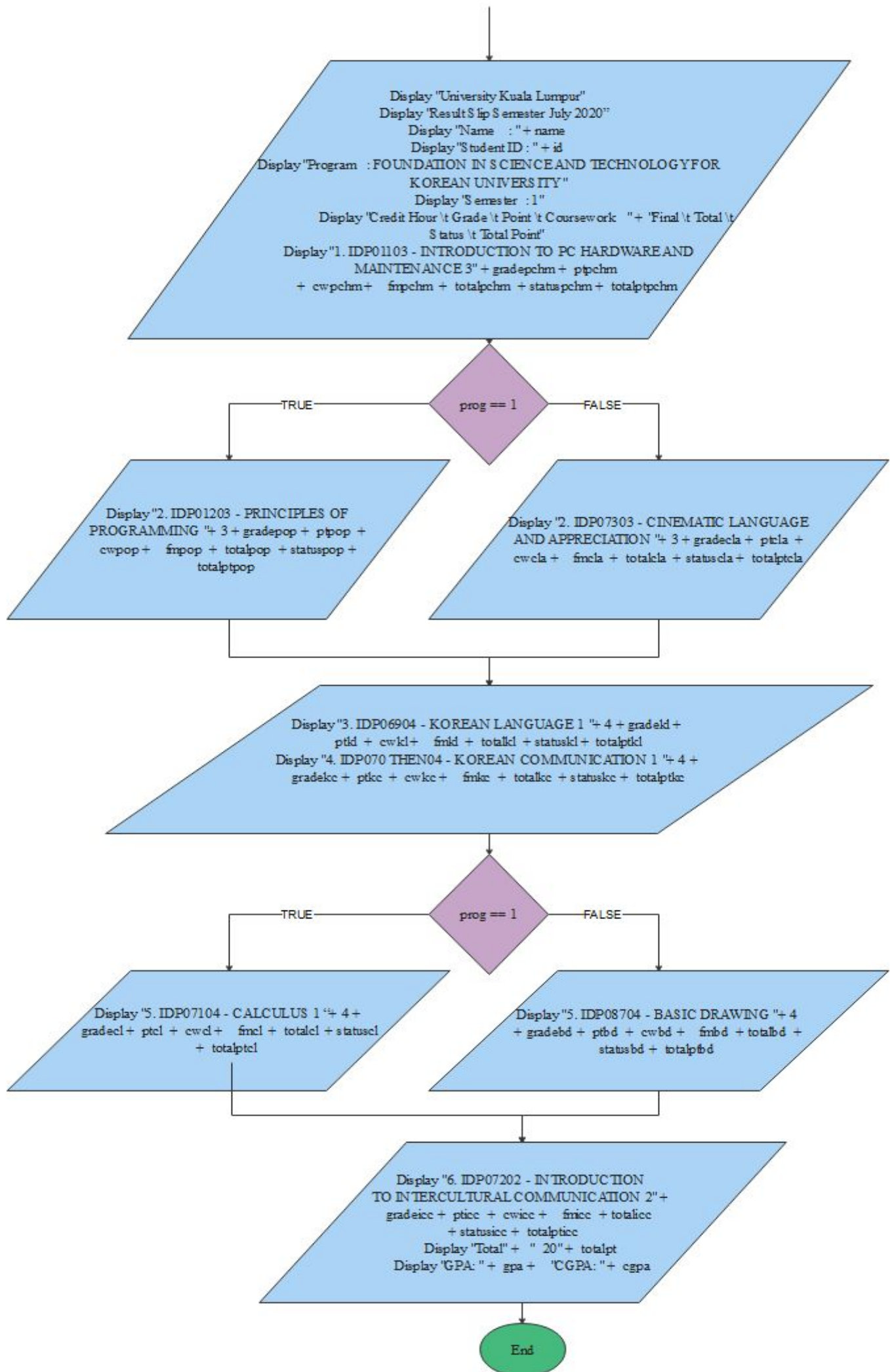
## Flowchart











## Phase 3 (Implementation)

```
package assignmentresult;
```

```
import java.text.DecimalFormat;
```

```
import java.util.Scanner;
```

```
/**
 *
 * @author USER
 */
public class Main {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);
        //Set for all decimalformat to be used
        DecimalFormat df = new DecimalFormat("#0.00");
        DecimalFormat df2 = new DecimalFormat("#0");
        DecimalFormat df3 = new DecimalFormat("#00.00");

        //Declaring all variable
        //(-pchm//pop//icc//kl//kc//cl//cla//bd) are all the shortform for coursename
        //Declare for grade
        String name, statuspchm = null, gradepchm, gradepop = null, gradeicc, gradekc, gradekl, gradecl =
        null, gradecla = null, gradebd = null;
        // Declare for status
        String statuspop = null, statusicc, statuskc, statuskl, statuscl = null, statuscla = null, statusbd = null;
        //declare variable for choosing program
        int prog;
        //Declare for pt(Point), totalpt(totalpoint),cw(coursework), fm(finalmark
        double ptpchm, totalpt, gpa, cgpa, ptcla = 0, ptbd = 0;
        double ptpop = 0, pticc, ptkc, ptkl, ptcl = 0, totalptpop = 0, totalpticc, totalptkc, totalptkl, totalptcl = 0,
        totalptpchm, totalptcla = 0, totalbd = 0, totalptbd = 0;
        double cwpop = 0, fmpop = 0, totalpop = 0, cwcl = 0, fmcl = 0, totalcl = 0;
        double cwcla = 0, fmcla = 0, totalcla = 0;
        double cwbd = 0, fmbd = 0;
        // declare variable for student id
        long id;

        //prompt for student name
        System.out.println("Please enter your name:");
        //get student name
        name = scanner.nextLine();
        System.out.println("");
```

```

//prompt for student id
System.out.println("Please enter your student id:");
//get student id
id = scanner.nextLong();
System.out.println("");
//prompt for course
System.out.println("Please enter your program based on the code:");
System.out.println("1 - Pre-Korea [Engineering]");
System.out.println("2 - Pre-Korea [Animation]");
//get course
prog = scanner.nextInt();

System.out.println("");

//Prompting for PCHM mark
System.out.println("[You are going to enter your coursework mark and final mark for every
subject]");
System.out.println("");
System.out.println("Subject: IDP01103 - INTRODUCTION TO PC HARDWARE AND
MAINTENANCE ");
System.out.println("Coursework mark:");
double cwpchm = scanner.nextDouble();
System.out.println("Final mark:");
double fmpchm = scanner.nextDouble();
//calculate total mark
double totalpchm = ((cwpchm / 100) * 50) + ((fmpchm / 100) * 50);
//Find grade, status and point for the subject
if (totalpchm >= 80) {
    gradepchm = "A";
    statuspchm = "PASS";
    ptpchm = 4.00;
} else if (totalpchm >= 75) {
    gradepchm = "A-";
    statuspchm = "PASS";
    ptpchm = 3.67;
} else if (totalpchm >= 70) {
    gradepchm = "B+";
    statuspchm = "PASS";
    ptpchm = 3.33;
} else if (totalpchm >= 65) {
    gradepchm = "B";
    statuspchm = "PASS";
    ptpchm = 3.00;
} else if (totalpchm >= 60) {
    gradepchm = "B-";
    statuspchm = "PASS";
    ptpchm = 2.67;
} else if (totalpchm >= 55) {
    gradepchm = "C+";
    statuspchm = "PASS";

```

```

    ptpchm = 2.33;
} else if (totalpchm >= 50) {
    gradepchm = "C";
    statuspchm = "PASS";
    ptpchm = 2.00;
} else if (totalpchm >= 45) {
    gradepchm = "C-";
    statuspchm = "PASS";
    ptpchm = 1.67;
} else if (totalpchm >= 40) {
    gradepchm = "D";
    statuspchm = "PASS";
    ptpchm = 1.00;
} else {
    gradepchm = "F";
    statuspchm = "FAIL ";
    ptpchm = 0.00;
}
//calculate total point
totalptpchm = ptpchm * 3;

```

//Since there are animation and engineering course, hence the difference prompting mark for subject are needed

//Prompting for either animation or engineering subject mark.

```

if (prog == 1) {
    System.out.println("");
    System.out.println("Subject: IDP01203 - PRINCIPLES OF PROGRAMMING ");
    System.out.println("Coursework mark:");
    cwpop = scanner.nextDouble();
    System.out.println("Final mark:");
    fmpop = scanner.nextDouble();
    //calculate total mark
    totalpop = ((cwpop / 100) * 50) + ((fmpop / 100) * 50);
    //Find grade, status and point for the subject
    if (totalpop >= 80) {
        gradepop = "A";
        statuspop = "PASS";
        ptpop = 4.00;
    } else if (totalpop >= 75) {
        gradepop = "A-";
        statuspop = "PASS";
        ptpop = 3.67;
    } else if (totalpop >= 70) {
        gradepop = "B+";
        statuspop = "PASS";
        ptpop = 3.33;
    } else if (totalpop >= 65) {
        gradepop = "B";
        statuspop = "PASS";
        ptpop = 3.00;
    }
}

```

```

    } else if (totalpop >= 60) {
        gradepop = "B-";
        statuspop = "PASS";
        ptpop = 2.67;
    } else if (totalpop >= 55) {
        gradepop = "C+";
        statuspop = "PASS";
        ptpop = 2.33;
    } else if (totalpop >= 50) {
        gradepop = "C";
        statuspop = "PASS";
        ptpop = 2.00;
    } else if (totalpop >= 45) {
        gradepop = "C-";
        statuspop = "PASS";
        ptpop = 1.67;
    } else if (totalpop >= 40) {
        gradepop = "D";
        statuspop = "PASS";
        ptpop = 1.00;
    } else {
        gradepop = "F";
        statuspop = "FAIL";
        ptpop = 0.00;
    }
    //calculate total point
    totalptpop = ptpop * 3;
} else {
    System.out.println("");
    System.out.println("Subject: IDP07303 - CINEMATIC LANGUAGE AND APPRECIATION ");
    System.out.println("Coursework mark:");
    cwcla = scanner.nextDouble();
    System.out.println("Final mark:");
    fmcla = scanner.nextDouble();
    //calculate total mark
    totalcla = ((cwcla / 100) * 50) + ((fmcla / 100) * 50);
    //Find grade, status and point for the subject
    if (totalcla >= 80) {
        gradecla = "A";
        statuscla = "PASS";
        ptcla = 4.00;
    } else if (totalcla >= 75) {
        gradecla = "A-";
        statuscla = "PASS";
        ptcla = 3.67;
    } else if (totalcla >= 70) {
        gradecla = "B+";
        statuscla = "PASS";
        ptcla = 3.33;
    } else if (totalcla >= 65) {

```

```

        gradecla = "B";
        statuscla = "PASS";
        ptcla = 3.00;
    } else if (totalcla >= 60) {
        gradecla = "B-";
        statuscla = "PASS";
        ptcla = 2.67;
    } else if (totalcla >= 55) {
        gradecla = "C+";
        statuscla = "PASS";
        ptcla = 2.33;
    } else if (totalcla >= 50) {
        gradecla = "C";
        statuscla = "PASS";
        ptcla = 2.00;
    } else if (totalcla >= 45) {
        gradecla = "C-";
        statuscla = "PASS";
        ptcla = 1.67;
    } else if (totalcla >= 40) {
        gradecla = "D";
        statuscla = "PASS";
        ptcla = 1.00;
    } else {
        gradecla = "F";
        statuscla = "FAIL";
        ptcla = 0.00;
    }
    //calculate total point
    totalptcla = ptcla * 3;
}
//Prompting for next subject
System.out.println("");
System.out.println("Subject: IDP06904 - KOREAN LANGUAGE 1 ");
System.out.println("Coursework mark:");
double cwkl = scanner.nextDouble();
System.out.println("Final mark:");
double fmkl = scanner.nextDouble();
//calculate total mark
double totalkl = ((cwkl / 100) * 50) + ((fmkl / 100) * 50);
//Find grade, status and point for the subject
if (totalkl >= 80) {
    gradekl = "A";
    statuskl = "PASS";
    ptkl = 4.00;
} else if (totalkl >= 75) {
    gradekl = "A-";
    statuskl = "PASS";
    ptkl = 3.67;
} else if (totalkl >= 70) {

```



```

        gradekl = "B+";
        statuskl = "PASS";
        ptkl = 3.33;
    } else if (totalkl >= 65) {
        gradekl = "B";
        statuskl = "PASS";
        ptkl = 3.00;
    } else if (totalkl >= 60) {
        gradekl = "B-";
        statuskl = "PASS";
        ptkl = 2.67;
    } else if (totalkl >= 55) {
        gradekl = "C+";
        statuskl = "PASS";
        ptkl = 2.33;
    } else if (totalkl >= 50) {
        gradekl = "C";
        statuskl = "PASS";
        ptkl = 2.00;
    } else if (totalkl >= 45) {
        gradekl = "C-";
        statuskl = "PASS";
        ptkl = 1.67;
    } else if (totalkl >= 40) {
        gradekl = "D";
        statuskl = "PASS";
        ptkl = 1.00;
    } else {
        gradekl = "F";
        statuskl = "FAIL";
        ptkl = 0.00;
    }
}
//calculate total point
totalptkl = ptkl * 4;

```

```

System.out.println("");
System.out.println("Subject: IDP07004 - KOREAN COMMUNICATION 1 ");
System.out.println("Coursework mark:");
double cwkc = scanner.nextDouble();
System.out.println("Final mark:");
double fmkc = scanner.nextDouble();
//calculate total mark
double totalkc = ((cwkc / 100) * 50) + ((fmkc / 100) * 50);
//Find grade, status and point for the subject
if (totalkc >= 80) {
    gradekc = "A";
    statuskc = "PASS";
    ptkc = 4.00;
} else if (totalkc >= 75) {
    gradekc = "A-";

```

```

        statuskc = "PASS";
        ptkc = 3.67;
    } else if (totalkc >= 70) {
        gradekc = "B+";
        statuskc = "PASS";
        ptkc = 3.33;
    } else if (totalkc >= 65) {
        gradekc = "B";
        statuskc = "PASS";
        ptkc = 3.00;
    } else if (totalkc >= 60) {
        gradekc = "B-";
        statuskc = "PASS";
        ptkc = 2.67;
    } else if (totalkc >= 55) {
        gradekc = "C+";
        statuskc = "PASS";
        ptkc = 2.33;
    } else if (totalkc >= 50) {
        gradekc = "C";
        statuskc = "PASS";
        ptkc = 2.00;
    } else if (totalkc >= 45) {
        gradekc = "C-";
        statuskc = "PASS";
        ptkc = 1.67;
    } else if (totalkc >= 40) {
        gradekc = "D";
        statuskc = "PASS";
        ptkc = 1.00;
    } else {
        gradekc = "F";
        statuskc = "FAIL";
        ptkc = 0.00;
    }
}
//calculate total point
totalptkc = ptkc * 4;
if (prog == 1) {
    System.out.println("");
    System.out.println("Subject: IDP07104 - CALCULUS 1");
    System.out.println("Coursework mark:");
    cwcl = scanner.nextDouble();
    System.out.println("Final mark:");
    fmcl = scanner.nextDouble();
    //calculate total mark
    totalcl = ((cwcl / 100) * 50) + ((fmcl / 100) * 50);
    //Find grade, status and point for the subject
    if (totalcl >= 80) {
        gradecl = "A";
        statuscl = "PASS";
    }
}

```

```

        ptcl = 4.00;
    } else if (totalcl >= 75) {
        gradecl = "A-";
        statuscl = "PASS";
        ptcl = 3.67;
    } else if (totalcl >= 70) {
        gradecl = "B+";
        statuscl = "PASS";
        ptcl = 3.33;
    } else if (totalcl >= 65) {
        gradecl = "B";
        statuscl = "PASS";
        ptcl = 3.00;
    } else if (totalcl >= 60) {
        gradecl = "B-";
        statuscl = "PASS";
        ptcl = 2.67;
    } else if (totalcl >= 55) {
        gradecl = "C+";
        statuscl = "PASS";
        ptcl = 2.33;
    } else if (totalcl >= 50) {
        gradecl = "C";
        statuscl = "PASS";
        ptcl = 2.00;
    } else if (totalcl >= 45) {
        gradecl = "C-";
        statuscl = "PASS";
        ptcl = 1.67;
    } else if (totalcl >= 40) {
        gradecl = "D";
        statuscl = "PASS";
        ptcl = 1.00;
    } else {
        gradecl = "F";
        statuscl = "FAIL";
        ptcl = 0.00;
    }
    //calculate total point
    totalptcl = ptcl * 4;
} else {
    System.out.println("");
    System.out.println("Subject: IDP08704 - BASIC DRAWING");
    System.out.println("Coursework mark:");
    cwbd = scanner.nextDouble();
    System.out.println("Final mark:");
    fmbd = scanner.nextDouble();
    //calculate total mark
    totalbd = ((cwbd / 100) * 50) + ((fmbd / 100) * 50);
    //Find grade, status and point for the subject

```

```

if (totalbd >= 80) {
    gradebd = "A";
    statusbd = "PASS";
    ptbd = 4.00;
} else if (totalbd >= 75) {
    gradebd = "A-";
    statusbd = "PASS";
    ptbd = 3.67;
} else if (totalbd >= 70) {
    gradebd = "B+";
    statusbd = "PASS";
    ptbd = 3.33;
} else if (totalbd >= 65) {
    gradebd = "B";
    statusbd = "PASS";
    ptbd = 3.00;
} else if (totalbd >= 60) {
    gradebd = "B-";
    statusbd = "PASS";
    ptbd = 2.67;
} else if (totalbd >= 55) {
    gradebd = "C+";
    statusbd = "PASS";
    ptbd = 2.33;
} else if (totalbd >= 50) {
    gradebd = "C";
    statusbd = "PASS";
    ptbd = 2.00;
} else if (totalbd >= 45) {
    gradebd = "C-";
    statusbd = "PASS";
    ptbd = 1.67;
} else if (totalbd >= 40) {
    gradebd = "D";
    statusbd = "PASS";
    ptbd = 1.00;
} else {
    gradebd = "F";
    statusbd = "FAIL";
    ptbd = 0.00;
}
//calculate total point
totalptbd = ptbd * 4;
}
//Prompting and get for the last subject mark
System.out.println("");
System.out.println("Subject: IDP07202 - INTRODUCTION TO INTERCULTURAL
COMMUNICATION ");
System.out.println("Coursework mark:");
double cwicc = scanner.nextDouble();

```

```

System.out.println("Final mark:");
double fmicc = scanner.nextDouble();
//calculate total mark
double totalicc = ((cwicc / 100) * 50) + ((fmicc / 100) * 50);
//Find grade, status and point for the subject
if (totalicc >= 80) {
    gradeicc = "A";
    statusicc = "PASS";
    pticc = 4.00;
} else if (totalicc >= 75) {
    gradeicc = "A-";
    statusicc = "PASS";
    pticc = 3.67;
} else if (totalicc >= 70) {
    gradeicc = "B+";
    statusicc = "PASS";
    pticc = 3.33;
} else if (totalicc >= 65) {
    gradeicc = "B";
    statusicc = "PASS";
    pticc = 3.00;
} else if (totalicc >= 60) {
    gradeicc = "B-";
    statusicc = "PASS";
    pticc = 2.67;
} else if (totalicc >= 55) {
    gradeicc = "C+";
    statusicc = "PASS";
    pticc = 2.33;
} else if (totalicc >= 50) {
    gradeicc = "C";
    statusicc = "PASS";
    pticc = 2.00;
} else if (totalicc >= 45) {
    gradeicc = "C-";
    statusicc = "PASS";
    pticc = 1.67;
} else if (totalicc >= 40) {
    gradeicc = "D";
    statusicc = "PASS";
    pticc = 1.00;
} else {
    gradeicc = "F";
    statusicc = "FAIL";
    pticc = 0.00;
}
//calculate total point
totalpticc = pticc * 2;

//calculate gpa

```

```

totalpt = totalptpop + totalpticc + totalptkc + totalptkl + totalptcl + totalptpchm;
gpa = totalpt / 20;
//Since this is the first semester, hence the cgpa=gpa
cgpa = gpa;

//Display the result
System.out.println("\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "University Kuala Lumpur");
System.out.println("\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "Result Slip Semester July 2020");

System.out.println("_____");

____");
    System.out.println("Name      : " + name);
    System.out.println("Student ID : " + id);
    System.out.println("Program    : FOUNDATION IN SCIENCE AND TECHNOLOGY FOR KOREAN
UNIVERSITY ");
    System.out.println("Semester   : 1");

System.out.println("_____");

____");
    System.out.println("                                Credit Hour\tGrade\tPoint\tCoursework
" + "Final\tTotal\tStatus\tTotal Point");

System.out.println("-----");
-----");
    System.out.println("1. IDP01103 - INTRODUCTION TO PC HARDWARE AND MAINTENANCE
3" + "\t" + "\t" + gradepchm + "\t" + df.format(ptpchm) + "\t" + df2.format(cwpcchm) + "\t" + "\t" +
df2.format(fmpchm) + "\t" + df2.format(totalpchm) + "\t" + statuspchm + "\t" + df3.format(totalptpchm));
    if (prog == 1) {
        System.out.println("2. IDP01203 - PRINCIPLES OF PROGRAMMING
3" + "\t"
+ "\t" + gradepop + "\t" + df.format(ptpop) + "\t" + df2.format(cwpop) + "\t" + "\t" + df2.format(fmpop) +
"\t" + df2.format(totalpop) + "\t" + statuspop + "\t" + df3.format(totalptpop));
    } else {
        System.out.println("2. IDP07303 - CINEMATIC LANGUAGE AND APPRECIATION
3"
+ "\t" + "\t" + gradecla + "\t" + df.format(ptcla) + "\t" + df2.format(cwcla) + "\t" + "\t" + df2.format(fmcla)
+ "\t" + df2.format(totalcla) + "\t" + statuscla + "\t" + df3.format(totalptcla));
    }
    System.out.println("3. IDP06904 - KOREAN LANGUAGE 1
4" + "\t" + "\t" +
gradecl + "\t" + df.format(ptkl) + "\t" + df2.format(cwkl) + "\t" + "\t" + df2.format(fmkl) + "\t" +
df2.format(totalkl) + "\t" + statuskl + "\t" + df3.format(totalptkl));
    System.out.println("4. IDP07004 - KOREAN COMMUNICATION 1
4" + "\t" + "\t"
+ gradekc + "\t" + df.format(ptkc) + "\t" + df2.format(cwkc) + "\t" + "\t" + df2.format(fmkc) + "\t" +
df2.format(totalkc) + "\t" + statuskc + "\t" + df3.format(totalptkc));
    if (prog == 1) {
        System.out.println("5. IDP07104 - CALCULUS 1
4" + "\t" + "\t" +
gradecl + "\t" + df.format(ptcl) + "\t" + df2.format(cwcl) + "\t" + "\t" + df2.format(fmcl) + "\t" +
df2.format(totalcl) + "\t" + statuscl + "\t" + df3.format(totalptcl));
    } else {

```

```

        System.out.println("5. IDP08704 - BASIC DRAWING" + "\t" + "\t" + "\t" +
gradebd + "\t" + df.format(ptbd) + "\t" + df2.format(cwbd) + "\t" + "\t" + df2.format(fmbd) + "\t" +
df2.format(totalbd) + "\t" + statusbd + "\t" + df3.format(totalptbd));
    }
    System.out.println("6. IDP07202 - INTRODUCTION TO INTERCULTURAL COMMUNICATION
2" + "\t" + "\t" + gradeicc + "\t" + df.format(pticc) + "\t" + df2.format(cwicc) + "\t" + "\t" +
df2.format(fmicc) + "\t" + df2.format(totalicc) + "\t" + statusicc + "\t" + df3.format(totalpticc));

System.out.println("_____
_____
_____");
    System.out.println("\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "Total" + "\t" + "\t" + " 20" + "\t" + "\t" + "\t" +
"\t" + "\t" + "\t" + "\t" + "\t" + "\t" + df.format(totalpt));
    System.out.println("");
    System.out.println("\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "\t" + "GPA: " + df.format(gpa) + "\t" +
"\t" + "\t" + "CGPA: " + df.format(cgpa));

System.out.println("_____
_____
_____");
    }
}

```

## Phase 4 (Testing the Program)

## Data Set 1

Variable	Output that will come out							
Name	Lorem ipsum							
Student ID	5555							
Program input	Pre-Korea (Engineering)							
Program	Foundation in Science and Technology for Korean University							
Semester	1							
Subject	Credit hour	Grade	Point	Coursework mark	Final mark	Total	Status	Total point
PCHM	3	A	4.00	87	95	91	PASS	12.00
POP	3	B	3.00	66	73	70	PASS	09.00
KL	4	B-	2.67	45	78	62	PASS	10.68
KC	4	C-	1.67	40	53	46	PASS	06.68
CL	4	F	0.00	24	44	34	FAIL	00.00
ICC	2	B+	3.33	70	75	72	PASS	06.66
Total	20	-	-	-	-	-	-	45.02
GPA	2.25							
CGPA	2.25							

## Output Sample

University Kuala Lumpur									
Result Slip Semester July 2020									
Name	: Lorem ipsum								
Student ID	: 5555								
Program	: FOUNDATION IN SCIENCE AND TECHNOLOGY FOR KOREAN UNIVERSITY								
Semester	: 1								
	Credit Hour	Grade	Point	Coursework	Final	Total	Status	Total Point	
1. IDP01103 - INTRODUCTION TO PC HARDWARE AND MAINTENANCE	3	A	4.00	87	95	91	PASS	12.00	
2. IDP01203 - PRINCIPLES OF PROGRAMMING	3	B	3.00	66	73	70	PASS	09.00	
3. IDP06904 - KOREAN LANGUAGE 1	4	B-	2.67	45	78	62	PASS	10.68	
4. IDP07004 - KOREAN COMMUNICATION 1	4	C-	1.67	40	53	46	PASS	06.68	
5. IDP07104 - CALCULUS 1	4	F	0.00	24	44	34	FAIL	00.00	
6. IDP07202 - INTRODUCTION TO INTERCULTURAL COMMUNICATION	2	B+	3.33	70	75	72	PASS	06.66	
Total	20							45.02	
GPA: 2.25				CGPA: 2.25					
BUILD SUCCESSFUL (total time: 53 seconds)									



## Data set 2

Variable	Output that will come out							
Name	Lorem ipsum dolor							
Student ID	6666							
Program input	Pre-Korea (Animation)							
Program	Foundation in Science and Technology for Korean University							
Semester	1							
Subject	Credit hour	Grade	Point	Coursework mark	Final mark	Total	Status	Total point
PCHM	3	A	4.00	70	100	85	PASS	12.00
CLA	3	D	1.00	40	45	42	PASS	03.00
KL	4	C	2.00	50	53	52	PASS	08.00
KC	4	C+	2.33	55	58	56	PASS	09.32
BD	4	A-	3.67	75	78	76	PASS	14.68
ICC	2	F	0.00	12	33	22	FAIL	00.00
Total	20	-	-	-	-	-	-	29.32
GPA	1.47							
CGPA	1.47							

Output sample:

University Kuala Lumpur  
Result Slip Semester July 2020

Name : Lorem ipsum dolor  
Student ID : 6666  
Program : FOUNDATION IN SCIENCE AND TECHNOLOGY FOR KOREAN UNIVERSITY  
Semester : 1

	Credit Hour	Grade	Point	Coursework	Final	Total	Status	Total Point
1. IDP01103 - INTRODUCTION TO PC HARDWARE AND MAINTENANCE	3	A	4.00	70	100	85	PASS	12.00
2. IDP07303 - CINEMATIC LANGUAGE AND APPRECIATION	3	D	1.00	40	45	42	PASS	03.00
3. IDP06904 - KOREAN LANGUAGE 1	4	C	2.00	50	53	52	PASS	08.00
4. IDP07004 - KOREAN COMMUNICATION 1	4	C+	2.33	55	58	56	PASS	09.32
5. IDP08704 - BASIC DRAWING	4	A-	3.67	75	78	76	PASS	14.68
6. IDP07202 - INTRODUCTION TO INTERCULTURAL COMMUNICATION	2	F	0.00	12	33	22	FAIL	00.00
Total	20							29.32
			GPA: 1.47		CGPA: 1.47			

BUILD SUCCESSFUL (total time: 38 seconds)

### Data Set 3

Variable	Output that will come out							
Name	Mirza Syahmi bin Afandi							
Student ID	52051120026							
Program input	Pre-Korea (Engineering)							
Program	Foundation in Science and Technology for Korean University							
Semester	1							
Subject	Credit hour	Grade	Point	Coursework mark	Final mark	Total	Status	Total point
PCHM	3	A	4.00	98	98	98	PASS	12.00
CLA	3	A	4.00	98	98	98	PASS	12.00
KL	4	A	4.00	98	98	98	PASS	16.00
KC	4	A	4.00	98	98	98	PASS	16.00
BD	4	A	4.00	98	98	98	PASS	16.00
ICC	2	A	4.00	98	98	98	FAIL	08.00
Total	20	-	-	-	-	-	-	80.00
GPA	4.00							
CGPA	4.00							

Output sample:

University Kuala Lumpur Result Slip Semester July 2020									
Name	: Mirza Syahmi bin Afandi								
Student ID	: 52051120026								
Program	: FOUNDATION IN SCIENCE AND TECHNOLOGY FOR KOREAN UNIVERSITY								
Semester	: 1								
	Credit Hour	Grade	Point	Coursework	Final	Total	Status	Total Point	
1. IDP01103 - INTRODUCTION TO PC HARDWARE AND MAINTENANCE	3	A	4.00	98	98	98	PASS	12.00	
2. IDP01203 - PRINCIPLES OF PROGRAMMING	3	A	4.00	98	98	98	PASS	12.00	
3. IDP06904 - KOREAN LANGUAGE 1	4	A	4.00	98	98	98	PASS	16.00	
4. IDP07004 - KOREAN COMMUNICATION 1	4	A	4.00	98	98	98	PASS	16.00	
5. IDP07104 - CALCULUS 1	4	A	4.00	98	98	98	PASS	16.00	
6. IDP07202 - INTRODUCTION TO INTERCULTURAL COMMUNICATION	2	A	4.00	98	98	98	PASS	08.00	
Total	20							80.00	
GPA: 4.00				CGPA: 4.00					

## Phase 5 (Documentation)

Internal documentation : Comment in program

External documentation : The complete documentation of program  
development lifecycle (Phase 1 – 5)