

2

MarksSPM = 80

MarksSPM = 50

MarksSPM = 75

MarksSPM = 60

MarksISDM = 75

MarksISDM = 45

MarksISDM = 80

MarksISDM = 40

3. In the main program, calculate the average mark of OOC, SPM and ISDM.

Sample output:

Average OOC Mark : 70.75

Average SPM Mark : 66.25

Average ISDM Mark : 60

Marking Scheme

Compile correctly 1.0

Execute correctly 2.0

Declaring the class definition correctly 4.0

Implementing the class methods correctly 7.0

In client program

Creating objects correctly 2.0

Calling methods correctly 2.0

Correct calculation 2.0

Important : Please save your program (main program or the zip file) with your IT number and paper version. eg: ITXXXXXXXX_A.cpp
Include your IT number, name and paper version (mentioned above), as comments in your program.

Type here to search

Maximum size for new files: 30MB, maximum a

2. Create following three Lab objects in main method of main.cpp.

l1:Lab
labID = 401
capacity = 60

l2:Lab
labID = 402
capacity = 40

l3:Lab
labID = 403
capacity = 30

3. In the main program, get the **capacity as a keyboard input**. Check the capacity and display lab id of a suitable lab.

Hint : Inputted Capacity \leq Lab Capacity

Sample output:

Insert capacity : 50
Lab 401

Grading Sheet

Compile correctly	1.0	
Execute correctly	2.0	
Declaring the class definition correctly	4.0	
Implementing the class methods correctly	4.0	
In client program		
▪ Creating objects correctly	3.0	
▪ Calling methods correctly	3.0	
▪ Correct calculation	3.0	

1

Implement the Student class given below.

Student
studentID
studentName
marksOOC
marksSPM
marksISDM
setStudentDetails()
setMarksOOC()
getMarksOOC()
setMarksSPM()
getMarksSPM()
setMarksISDM()
getMarksISDM()

2. Create following four Student objects in main method of main.cpp.

s1:Student	s2:Student	s3:Student	s4:Student
studentID = 1234	studentID = 4567	studentID = 7891	studentID = 1212
studentName = Kamal	studentName = Saman	studentName = Nimal	studentName = Sunil
MarksOOC = 85	MarksOOC = 65	MarksOOC = 98	MarksOOC = 35
MarksSPM = 80	MarksSPM = 50	MarksSPM = 75	MarksSPM = 60
MarksISDM = 75	MarksISDM = 45	MarksISDM = 80	MarksISDM = 40

3. In the main program, calculate the average mark of OOC, SPM and ISDM.

Sample output:

Average OOC Mark : 70.75
Average SPM Mark : 66.25

Type here to search

1. Implement the Book class given below.

Book
bookID bookName author
setBookDetails() displayBookDetails() setBookID()

2. Create following three Book objects in main method of main.cpp.

b1:Book	b2:Book	b3:Book
bookID = 1212	bookID = 1234	bookID = 3456
bookName = Jane Eyre	bookName = Divergent	bookName = Matilda
author = Charlotte Bronte	author = Veronica Roth	author = Roald Dahl

3. In the main program, get new book ids for all three books as keyboard inputs, and set the new book ids. Display updated book details

Sample output:

Sample output:

Input new book ID 1 : 11

Input new book ID 2 : 12

Input new book ID 3 : 13

BookID = 11

BookName = Jane Eyre

Author = Charlotte Bronte

BookID = 12

BookName = Divergent

Author = Veronica Roth

BookID = 13

BookName = Matilda

Author = Roald Dahl

Marking Scheme

Compile correctly

1.0

Execute correctly

2.0

Declaring the class definition correctly

4.0

Implementing the class methods correctly

7.0

In client program

Question :

Create a project from your registration number and create Lab.h, Lab.cpp and main.cpp files in that project.

1. Implement Lab.h and Lab.cpp for the Lab class given below.

Lab
labID capacity
setLabDetails() getCapacity()

Version E

1. Implement the Vehicle class given below.

Vehicle
vehicleID
vehicleBrand
vehicleType
vehiclePrice
setVehicleDetails()
displayVehicleDetails()
setVehiclePrice()

2. Create following three Vehicle objects in main method of main.cpp.

v1:Vehicle

vehicleID = 1
vehicleBrand = Toyota
vehicleType = SUV
vehiclePrice = 8500000

v2:Vehicle

vehicleID = 2
vehicleBrand = Nissan
vehicleType = Saloon
vehiclePrice = 6000000

v3:Vehicle

vehicleID = 3
vehicleBrand = Honda
vehicleType = Convertible
vehiclePrice = 7200000

3. In the main program, get new prices for all three vehicles as keyboard inputs, and set the new prices. Display updated vehicle details
Sample output:

Input new price of vehicle 1 : 8000000
Input new price of vehicle 2: 5500000
Input new price of vehicle 3: 7000000

Version H

1. Implement the Guest class given below.

Guest
guestID
guestName
ratePerDay
numberOfDays
setGuestDetails()
displayGuestDetails()
calculateGuestBill()

*Hint: calculateGuestBill() method is to calculate the bill (ratePerDay * numberOfDays).*

2. Create following guest objects in main method of main.cpp.

g1:Guest
guestID = 1212

g2:Guest
guestID = 1122
guestName = Ben

g3:Guest
guestID = 1234
guestName = Ruby

2

3. In the main program, get new credit points for all courses as keyboard inputs, and set the new credit points. Display updated course details.

Sample output:

```
Input new OOC credit points : 4
```

```
Input new SPM credit points: 4
```

```
Input new IWT credit points: 3
```

```
Input new ISDM credit points: 3
```

```
CourseID = 1050
```

```
CourseName = OOC
```

```
CreditPoints= 4
```

```
CourseID = 1060
```

```
CourseName = SPM
```

```
CreditPoints= 4
```

```
CourseID = 1100
```

```
CourseName = IWT
```

```
CreditPoints= 3
```

n F

plement the Course class given below.

1

Course
courseID
courseName
creditPoints
setCourseDetails()
displayCourseDetails()
setCreditPoints()

Create following four Course objects in main method of main.cpp.

c1:Course	c2:Course	c3:Course	c4:Course
courseID = 1050	courseID = 1060	courseID = 1100	courseID = 1090
courseName = OOC	courseName = SPM	courseName = IWT	courseName = ISDM
creditPoints = 2	creditPoints = 3	creditPoints = 4	creditPoints = 4

3. In the main program, calculate the bill of all guests using calculateGuestBill() method, and display the total bill of each guest with guestID and guestName.

Sample output:

```
Guest ID = 1212  
Guest Name = Jared  
BillAmount = 18000
```

```
Guest ID = 1122  
Guest Name = Ben  
Bill Amount = 9000
```

```
Guest ID = 1234  
Guest Name = Ruby  
Bill Amount = 11500
```

Marking Scheme

Compile correctly

1.0

Execute correctly

2.0

Declaring the class definition correctly

4.0

Implementing the class methods correctly

7.0

*Hint: calculateGuestBill() method is to calculate the bill (ratePerDay * numberOfDays).*

2. Create following guest objects in main method of main.cpp.

g1:Guest
guestID = 1212
guestName = Jared
ratePerDay = 4500
numberOfDays = 4

g2:Guest
guestID = 1122
guestName = Ben
ratePerDay = 3000
numberOfDays = 3

g3:Guest
guestID = 1234
guestName = Ruby
ratePerDay = 5750
numberOfDays = 2

3. In the main program, calculate the bill of all guests using calculateGuestBill() method, and display the total bill of each guest with guestID and guestName.

Sample output:

Guest ID = 1212
Guest Name = Jared
BillAmount = 18000

Guest ID = 1122
Guest Name = Ben

1

Taxi
taxiID
driver
ratePerKM
distanceTravelled
setTaxiDetails()
displayTaxiDetails()
calculateBill()

Hint: *calculateBill()* method is to calculate the bill of a ride ($\text{ratePerKM} * \text{distanceTravelled}$).

2. Create following Taxi objects in main method of main.cpp.

t1:Taxi	t2:Taxi	t3:Taxi
taxiID = 1234	taxiID = 4321	taxiID = 3434
driver = Ben	driver = Chris	driver = Nick
ratePerKM = 150	ratePerKM = 250	ratePerKM = 175
distanceTravelled = 10	distanceTravelled = 4	distanceTravelled = 2

Version L

1. Implement the Doctor class given below.

Doctor
doctorID
doctorName
specialization
hospital
setDoctorDetails()
displayDoctorDetails()
getSpecialization()

2. Create following Doctor objects in main method of main.cpp.

d1:Doctor
doctorID =1
doctorName = Dr. Sunil
specialization = Neurologist

d2:Doctor
doctorID = 2
doctorName = Dr. Yasantha
specialization = Oncologist

Version J

1. Implement the Plane class given below.

Plane
planeID
pilot
destination
setPlaneDetails()
displayPlaneDetails()
getDestination()

2. Create following plane objects in main method of main.cpp

p1:Plane	p2:Plane	p3:Plane	p4:Plane
planeID = 1	planeID = 2	planeID = 3	planeID = 4
pilot = John	pilot = George	pilot = Henry	pilot = Ronald
destination = USA	destination = UK	destination = USA	destination = UAE

3. In the main program, get new pilot names for all planes as keyboard inputs, and set the new pilot names. Display updated plane details.

Sample output:

Input new pilot of plane 1: Bryan
Input new pilot of plane 2: Smith
Input new pilot of plane 3: Andrew

2

ratePerKM = 150

distanceTravelled = 10

ratePerKM = 250

distanceTravelled = 4

ratePerKM = 175

distanceTravelled = 2

3. In the main program, calculate the bill of all taxis using calculateBill() method, and display the total bill of each taxi with taxiID and driver.

Sample output:

Taxi ID = 1234

Driver Name = Ben

BillAmount = 1500

Taxi ID = 4321

Driver Name = Chris

BillAmount = 1000

Taxi ID = 3434

Driver Name = Nick

BillAmount = 350

Marking Scheme

Compile correctly

1.0

Execute correctly

2.0

Declaring the class definition correctly

4.0

Implementing the class methods correctly

7.0

3. In the main program, get new pilot names for all planes as keyboard inputs, and set the new pilot names. Display updated plane details.

Sample output:

```
Input new pilot of plane 1: Bryan  
Input new pilot of plane 2: Smith  
Input new pilot of plane 3: Andrew  
Input new pilot of plane 4: Jacob
```

```
PlaneID = 1  
pilot = Bryan  
destination = USA
```

```
PlaneID = 2  
pilot = Smith  
destination = UK
```

```
PlaneID = 3  
pilot = Andrew  
destination = USA
```

```
PlaneID = 4  
pilot = Jacob  
destination = UAE
```

2

P

Implement the Student class given below.

1

Student
studentID
studentName
marksOOC
marksSPM
marksISDM
setStudentDetails()
getStudentID()
getMarksOOC()
getMarksSPM()
getMarksISDM()

Create following Student objects in main method of main.cpp.

s1:Student
studentID = 1234

s2:Student
studentID = 4321
studentName = James

s3:Student
studentID =

3. In the main program, get new hospital for all courses as keyboard inputs, and set the new hospitals. Display updated doctor details.

Sample output:

Input new hospital of doctor 1 : Nawaloka

Input new hospital of doctor 2 : Central

Input new hospital of doctor 3 : Delmon

DoctorID =1

DoctorName = Dr. Sunil

Specialization = Neurologist

Hospital = Nawaloka

DoctorID = 2

DoctorName = Dr. Yasantha

Specialization = Oncologist

Hospital = Central

DoctorID = 3

DoctorName = Dr. Godvin

Specialization = Cardiologist

Hospital = Delmon

2

3

StudentID = 1234

StudentName = Kylie

MarksOOC = 75

MarksSPM = 80

MarksISDM = 60

Total Marks = 215

Average Mark = 71.67

StudentID = 4321

StudentName = James

Marks OOC = 65

Marks SPM = 70

Marks ISDM = 85

Total Marks = 220

Average Mark = 73.33

StudentID = 6543

StudentName = Kyson

MarksOOC = 90

Marks SPM = 85

Marks ISDM = 80

Total Marks = 255

Average Mark = 85

3. In the main program, get new start time for all trains as keyboard inputs, and set the new start times. Display updated train details.

Sample output:

```
Input new start time of train 1 : 6:30AM
Input new start time of train 2 : 8:00AM
Input new start time of train 3 : 4:30AM
```

```
TrainID = 1
Capacity = 200
StartTime = 6:30AM
Destination = Kandy
```

```
TrainID = 2
Capacity = 150
StartTime = 8:00AM
Destination = Galle
```

```
TrainID = 3
Capacity = 300
Start Time = 4:30AM
Destination = Jaffna
```

1. Implement the Train class given below.

Train
trainID
capacity
startTime
destination
setTrainDetails()
displayTrainDetails()
setStartTime()

2. Create following Train objects in main method of main.cpp.

t1:Train

trainID = 1

capacity = 200

startTime = 6:00AM

destination = Kandy

t2:Train

trainID = 2

capacity = 150

startTime = 7:30AM

destination = Galle

t3:Train

trainID = 3

capacity = 300

startTime = 4:00AM

destination = Jaffna

2

```
getStudentID()  
getMarksOOC()  
getMarksSPM()  
getMarksISDM()
```

2. Create following Student objects in main method of main.cpp.

s1:Student
studentID = 1234
studentName = Kylie
marksOOC = 75
marksSPM = 80
marksISDM = 60

s2:Student
studentID = 4321
studentName = James
marksOOC = 65
marksSPM = 70
marksISDM = 85

s3:Student
studentID = 6543
studentName = Kyson
marksOOC = 90
marksSPM = 85
marksISDM = 80

3. In the main program, display the report of each student with total marks obtained for all modules and average obtained.

Sample output:

```
StudentID = 1234  
StudentName = Kylie  
MarksOOC = 75  
MarksSPM = 80  
MarksISDM = 60
```


CONTACTNO = 710342201

CONTACTNO = 710343220

CONTACTNO = 710342070

3. In the main program, get new contact numbers for all children as keyboard inputs, and set the new contact numbers. Display updated childrenname, parent name and contact number details.

Sample output:

Input new contact number of child 1 : 2567654

Input new contact number of child 2 : 2723464

Input new contact number of child 3 : 2843215

Child Name = Oliver

ParentName = Bryan

Contact Number = 2567654

Child Name = Cody

Parent Name = Joel

Contact Number = 2723464

Child Name = Kaden

Parent Name = Jessica

Contact Number = 2843215

Marking Scheme

Compile correctly

1.0

Execute correctly

2.0

2

1. Implement the Lecturer class given below.

Lecturer
lecturerName
subject
availableDay
setLecturerDetails()
displayLecturerDetails()
setAvailableDay()

2. Create following lecturer objects in main method of main.cpp.

I1:Lecturer
lecturerName = Ms. Shalini
subject = OOC
availableDay = Tuesday

I2:Lecturer
lecturerName = Ms. Losini
subject = IWT
availableDay = Wednesday

I3:Lecturer
lecturerName = Ms. Loksha
subject = OOC
availableDay = Thursday

3. In the main program, get new available day for all lecturers as keyboard inputs, and set the new available days. Display updated lecturer details.

Sample output:

```
Input available day of Ms. Shalini : Friday
Input available day of Ms. Losini : Monday
Input available day of Ms. Loksha: Tuesday

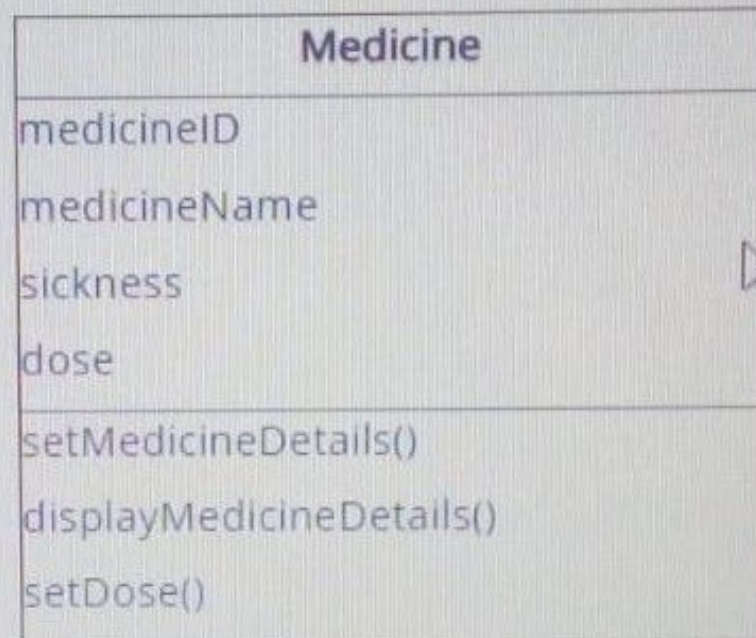
LecturerName = Ms. Shalini
Subject = OOC
AvailableDay = Friday

LecturerName = Ms. Losini
Subject = IWT
AvailableDay = Monday

LecturerName = Ms. Loksha
Subject = OOC
AvailableDay = Tuesday
```

Version T

1. Implement the Medicine class given below.



2. Create following Medicine objects in main method of main.cpp.

m1:Medicine	m2:Medicine	m3:Medicine
medicineID = 1	medicineID = 2	medicineID = 3

3. In the main program, get new event locations for all events as keyboard inputs, and set the new locations. Display updated event details.

Sample output:

```
Input new location of event 1: Malabe
Input new location of event 2: Kelaniya
Input new location of event 3: Galle
```

```
EventType = party
ThemeColor = red
Location = Malabe
```

```
EventType = wedding
ThemeColor = purple
Location = Kelaniya
```

```
EventType = party
ThemeColor = pink
Location = Galle
```

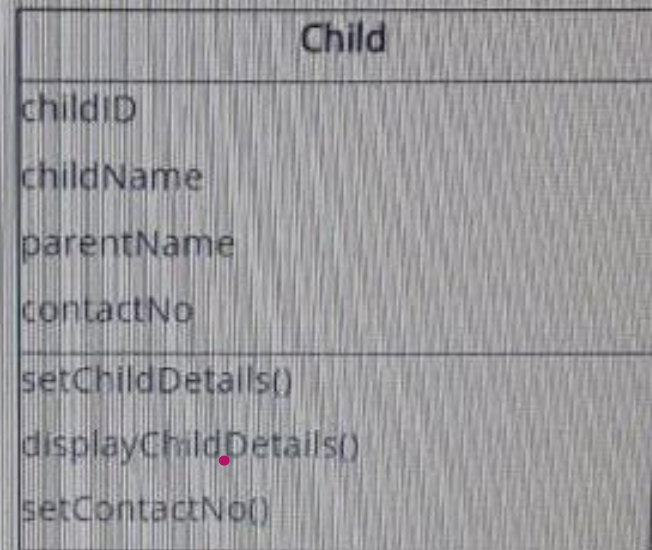
Marking Scheme

Compile correctly	1.0
Execute correctly	2.0
Declaring the class definition correctly	4.0
Implementing the class methods correctly	7.0
In client program	
Creating objects correctly	3.0
Calling methods correctly	3.0

2

Version S

1. Implement the Child class given below.



2. Create following Child objects in main method of main.cpp.

c1:Child
childID = 1
childName = Oliver
ageGroup = Toddler
parentName = Bryan

c2:Child
childID = 2
childName = Cody
ageGroup = Elder
parentName = Joel

c3:Child
childID = 3
childName = Kaden
ageGroup = Young
parentName = Jessica

Display updated medicine details.

Sample output:

Input new dose of medicine 1 : 2.0

Input new dose of medicine 2 : 2.0

Input new dose of medicine 3 : 1.0

MedicineID = 1

MedicineName = Panadol

Sickness = Headache

Dose = 12.0

MedicineID = 2

MedicineName = Vitamin C

Sickness = Cold

Dose = 2.0

MedicineID = 3

MedicineName = Vicks

Sickness = Cough

Dose = 1.0

Question 1

Not yet answered

Marked out of
20.00

Flag question

VERSION-U

1

1. Implement Salesman.h and Salesman.cpp for the Salesman class given below.

Salesman
salesmanId
salesmanName
salary
contactNo
setSalesmanDetails()
displaySalesmanDetails()
setSalesmanContactNo()

2. Create following Salesman objects using **Dynamic Memory Allocation** in main method of main.cpp.

s1: Salesman	s2: Salesman
salesmanId = 1	salesmanId = 2
salesmanName = John	salesmanName = Ann
salary = 30000	salary = 40000
contactNo = 772358375	contactNo = 773029452

s3: Salesman
salesmanId = 3
salesmanName = Leema
salary = 35000
contactNo = 778294526

3. In the main program, get new contact numbers for all salesmen as keyboard inputs, and set the new contact numbers. Display

2. Create following Medicine objects in main method of main.cpp.

m1.Medicine	m2.Medicine	m3.Medicine
medicineID = 1	medicineID = 2	medicineID = 3
medicineName = Panadol	medicineName = Vitamin C	medicineName = Vicks
sickness = Headache	sickness = Cold	sickness = Cough
dose = 1.0	dose = 1.5	dose = 2.0

3. In the main program, get updated dose of all medicine as keyboard inputs, and set the all update doses. Display updated medicine details.

Sample output:

```
Input new dose of medicine 1 : 2.0
Input new dose of medicine 2 : 2.0
Input new dose of medicine 3 : 1.0

MedicineID = 1
MedicineName = Panadol
Sickness = Headache
Dose = 12.0
```

3. In the main program, get new contact numbers for all salesmen as keyboard inputs, and set the new contact numbers. Display updated salesmandetails.

Sample output:

Input new contact number of salesman 1 : 772461836

Input new contact number of salesman 2 : 773927452

Input new contact number of salesman 3 : 772037452

SalesmanId = 1

SalesmanName = John

Salary = 30000

ContactNo = 772461836

SalesmanId = 2

SalesmanName = Ann

Salary = 40000

ContactNo = 773927452

SalesmanId = 3

SalesmanName = Leema

Salary = 35000

ContactNo = 772037452

2

VERSION-V

1

1. Implement the Event class given below.

Event
eventId
eventType
themeColor
location
setEventDetails()
displayEventDetails()
setEventLocation()

2. Create following three Event objects using **Dynamic Memory Allocation** in main method of main.cpp.

e1:Event	e2:Event
eventId = 1	eventId = 2
eventType = party	eventType = wedding
themeColor = red	themeColor = purple
location = Nugegoda	location = Maharagama

e3:Event
eventId = 3
eventType = party
themeColor = pink
location = Malabe

3. In the main program, get new event locations for all events as keyboard inputs, and set the new locations. Display updated event details.

Sample output: