

```
1 package com.abc.sms;
2
3 public class Course {
4     private int courseCode;
5     private int creditHr;
6     private String courseTitle;
7
8     public Course(String courseTitle, int courseCode
9 , int creditHr) {
10         setCourseTitle(courseTitle);
11         setCourseCode(courseCode);
12         setCreditHr(creditHr);
13     }
14
15     public int getCourseCode() {
16         return courseCode;
17     }
18
19     public void setCourseCode(int courseCode) {
20         this.courseCode = courseCode;
21     }
22
23     public String getCourseTitle() {
24         return courseTitle;
25     }
26
27     public void setCourseTitle(String courseTitle) {
28         this.courseTitle = courseTitle;
29     }
30
31     public int getCreditHr() {
32         return creditHr;
33     }
34
35     public void setCreditHr(int creditHr) {
36         if (creditHr < 5 && creditHr > 2)
37             this.creditHr = creditHr;
38         else
39             System.out.println("Credit Hours can
40 either be 3 or 4!");
41     }
42 }
```

```
40 }
```

```
41
```

```
1 package com.abc.sms;
2
3 public class Address {
4     private String city, country;
5     private PhoneNumber phoneNumber;
6
7     public Address(String city, String country,
8         PhoneNumber phoneNumber) {
9         setCity(city);
10        setCountry(country);
11        setPhoneNumber(phoneNumber);
12    }
13
14    public String getCity() {
15        return city;
16    }
17
18    public void setCity(String city) {
19        this.city = city;
20    }
21
22    public String getCountry() {
23        return country;
24    }
25
26    public void setCountry(String country) {
27        this.country = country;
28    }
29
30    public PhoneNumber getPhoneNumber() {
31        return phoneNumber;
32    }
33
34    public void setPhoneNumber(PhoneNumber
35        phoneNumber) {
36        this.phoneNumber = phoneNumber;
37    }
38 }
```

```
1 package com.abc.sms;
2
3 public class Student {
4     private Address address;
5     private Course course;
6     private String id;
7     private String name;
8
9     public Student(String id, String name, Address
address, Course course) {
10         setId(id);
11         setName(name);
12         this.address = address;
13         this.course = course;
14     }
15
16     public String getId() {
17         return id;
18     }
19
20     public void setId(String id) {
21         this.id = id;
22     }
23
24     public String getName() {
25         return name;
26     }
27
28     public void setName(String name) {
29         this.name = name;
30     }
31
32     public Address getAddress() {
33         return address;
34     }
35
36     public void setAddress(Address address) {
37         this.address = address;
38     }
39
40     public Course getCourse() {
```

```
41         return course;
42     }
43
44     public void setCourse(Course course) {
45         this.course = course;
46     }
47 }
48
```

```
1 package com.abc.sms;
2
3 public class PhoneNumber {
4     private int cityCode;
5     private int countryCode;
6     private String lineNumber;
7
8     public PhoneNumber(int cityCode, int countryCode
9 , String lineNumber) {
10         setCityCode(cityCode);
11         setCountryCode(countryCode);
12         setLineNumber(lineNumber);
13     }
14
15     public int getCityCode() {
16         return cityCode;
17     }
18
19     public void setCityCode(int cityCode) {
20         this.cityCode = cityCode;
21     }
22
23     public int getCountryCode() {
24         return countryCode;
25     }
26
27     public void setCountryCode(int countryCode) {
28         this.countryCode = countryCode;
29     }
30
31     public String getLineNumber() {
32         return lineNumber;
33     }
34
35     public void setLineNumber(String lineNumber) {
36         this.lineNumber = lineNumber;
37     }
38 }
```

```
1 package com.abc.sms;
2 /*
3  RANA FAHAD AMAN
4  FA20-BCE-021
5  */
6
7 import java.util.Scanner;
8
9 //Main Class
10 public class StudentTest {
11     public static void main(String[] args) {
12         //Input Method Call
13         inputMethod();
14     }
15
16     //Input Method Creation
17     public static void inputMethod() {
18         //Scanners Creation ( One for Strings and one
19         //for other data-types )
20         Scanner intScan = new Scanner(System.in);
21         Scanner stringScan = new Scanner(System.in);
22
23         //Array size, input from user
24         System.out.println("Enter Number of Students
25         : ");
26         int size = intScan.nextInt();
27
28         Student[] student = new Student[size];
29         Address[] address = new Address[size];
30         PhoneNumber[] phoneNumber = new PhoneNumber[
31         size];
32         Course[] course = new Course[size];
33
34         //Loop for inputting data in arrays
35         for (int i = 0; i < student.length; i++) {
36             System.out.printf("|INPUT DATA FOR
37             STUDENT#%d|\n", i + 1);
38             System.out.println("Enter ID: ");
39             String id = stringScan.nextLine();
40             System.out.println("Enter Name: ");
41             String name = stringScan.nextLine();
42         }
43     }
44 }
```

```

38         System.out.println("Enter City:");
39         String city = stringScan.nextLine();
40         System.out.println("Enter Country: ");
41         String country = stringScan.nextLine();
42         System.out.println("Enter City Code: ");
43         int cityCode = intScan.nextInt();
44         System.out.println("Enter Country Code: "
45             );
46         int countryCode = intScan.nextInt();
47         System.out.println("Enter Line Number: "
48             );
49         String lineNum = stringScan.nextLine();
50         System.out.println("Enter Course Code: "
51             );
52         int courseCode = intScan.nextInt();
53         System.out.println("Enter Course Title: "
54             );
55         String Title = stringScan.nextLine();
56         System.out.println("Enter Course Credit
57             Hour: ");
58         int creditHours = intScan.nextInt();
59         System.out.println();
60         phoneNumber[i] = new PhoneNumber(cityCode
61             , countryCode, lineNum);
62         address[i] = new Address(city, country,
63             phoneNumber[i]);
64         course[i] = new Course(Title, courseCode
65             , creditHours);
66         student[i] = new Student(id, name,
67             address[i], course[i]);
68     }
69     //Output Method Call
70     outputMethod(student);
71 }
72
73 //Output Method Creation
74 public static void outputMethod(Student[] student
75 ) {
76     for (int i = 0; i < student.length; i++) {
77         System.out.printf("|PRINTING DATA FOR
78             STUDENT#%d|\n", i + 1);

```



```
68         System.out.println("ID: " + student[i].
        getId());
69         System.out.println("Name: " + student[i]
        .getName());
70         System.out.println("City: " + student[i]
        .getAddress().getCity());
71         System.out.println("Country: " + student
        [i].getAddress().getCountry());
72         System.out.println("City Code: " +
        student[i].getAddress().getPhoneNumber().getCityCode
        ());
73         System.out.println("Country Code: " +
        student[i].getAddress().getPhoneNumber().
        getCountryCode());
74         System.out.println("Line Number: " +
        student[i].getAddress().getPhoneNumber().
        getLineNumber());
75         System.out.println("Phone Number: " +
        "(+" + student[i].getAddress().getPhoneNumber().
        getCountryCode() + ")" + student[i].getAddress().
        getPhoneNumber().getLineNumber());
76         System.out.println("Course Code: " +
        student[i].getCourse().getCourseCode());
77         System.out.println("Course Title: " +
        student[i].getCourse().getCourseTitle());
78         System.out.println("Credit Hour: " +
        student[i].getCourse().getCreditHr());
79         System.out.println();
80     }
81 }
82 }
```

```
1 C:\Users\hp\.jdk\openjdk-17\bin\java.exe "-javaagent
:C:\ProgramData\IntelliJ IDEA\IntelliJ IDEA Community
Edition 2021.2.2\lib\idea_rt.jar=52677:C:\
ProgramData\IntelliJ IDEA\IntelliJ IDEA Community
Edition 2021.2.2\bin" -Dfile.encoding=UTF-8 -
classpath C:\Users\hp\IdeaProjects\Assignment2\out\
production\Assignment2 com.abc.sms.StudentTest
2 Enter Number of Students:
3 2
4 |INPUT DATA FOR STUDENT#1|
5 Enter ID:
6 FA20-BCE-021
7 Enter Name:
8 Rana Fahad Aman
9 Enter City:
10 Lahore
11 Enter Country:
12 Pakistan
13 Enter City Code:
14 0423
15 Enter Country Code:
16 92
17 Enter Line Number:
18 3494945272
19 Enter Course Code:
20 101
21 Enter Course Title:
22 Object Oriented Programming
23 Enter Course Credit Hour:
24 4
25
26 |INPUT DATA FOR STUDENT#2|
27 Enter ID:
28 37
29 Enter Name:
30 Daud Hassan
31 Enter City:
32 Okara
33 Enter Country:
34 Pakistan
35 Enter City Code:
```

```
36 0547
37 Enter Country Code:
38 92
39 Enter Line Number:
40 3111111111
41 Enter Course Code:
42 101
43 Enter Course Title:
44 ECA-2
45 Enter Course Credit Hour:
46 2
47
48 Credit Hours can either be 3 or 4!
49 |PRINTING DATA FOR STUDENT#1|
50 ID: FA20-BCE-021
51 Name: Rana Fahad Aman
52 City: Lahore
53 Country: Pakistan
54 City Code: 423
55 Country Code: 92
56 Line Number: 3494945272
57 Phone Number: (+92)3494945272
58 Course Code: 101
59 Course Title: Object Oriented Programming
60 Credit Hour: 4
61
62 |PRINTING DATA FOR STUDENT#2|
63 ID: 37
64 Name: Daud Hassan
65 City: Okara
66 Country: Pakistan
67 City Code: 547
68 Country Code: 92
69 Line Number: 3111111111
70 Phone Number: (+92)3111111111
71 Course Code: 101
72 Course Title: ECA-2
73 Credit Hour: 0
74
75
76 Process finished with exit code 0
```