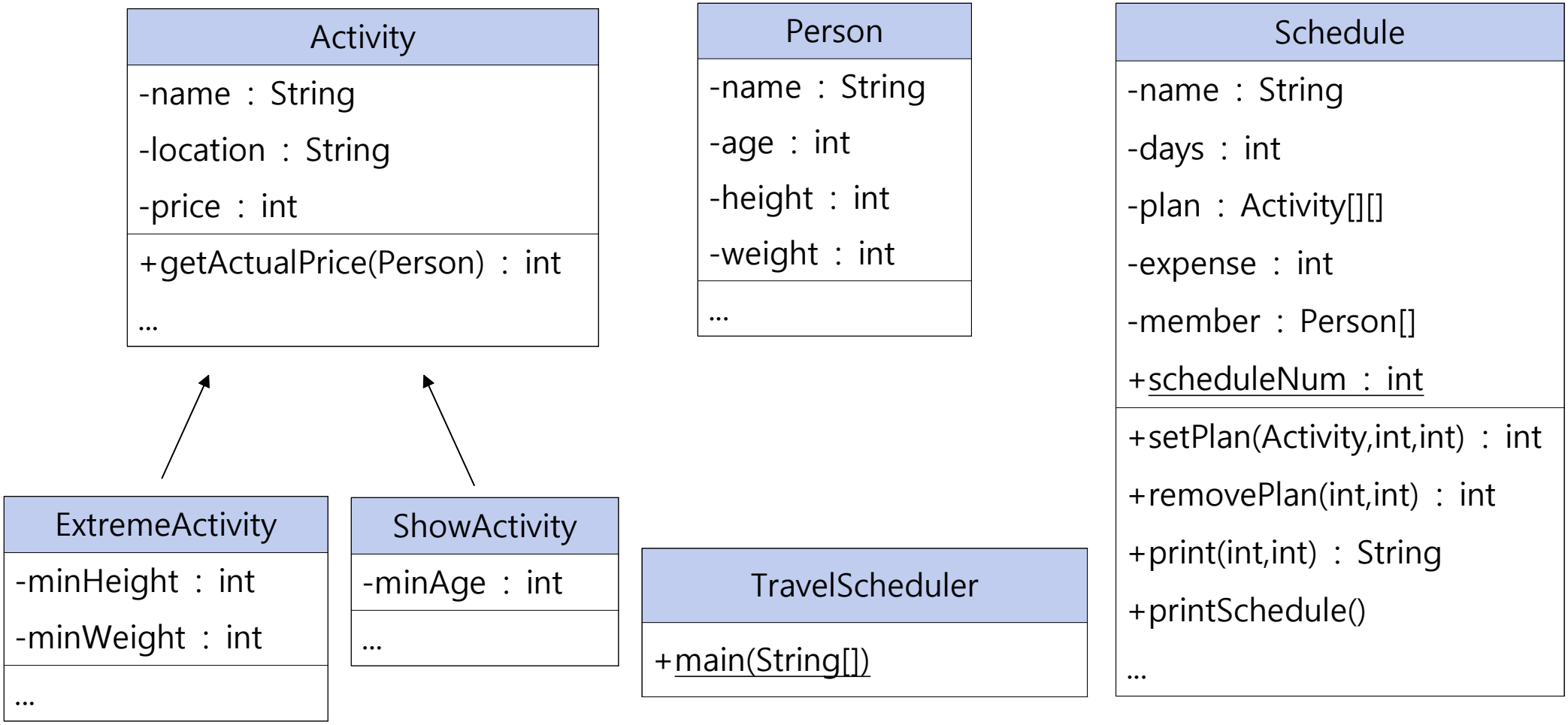
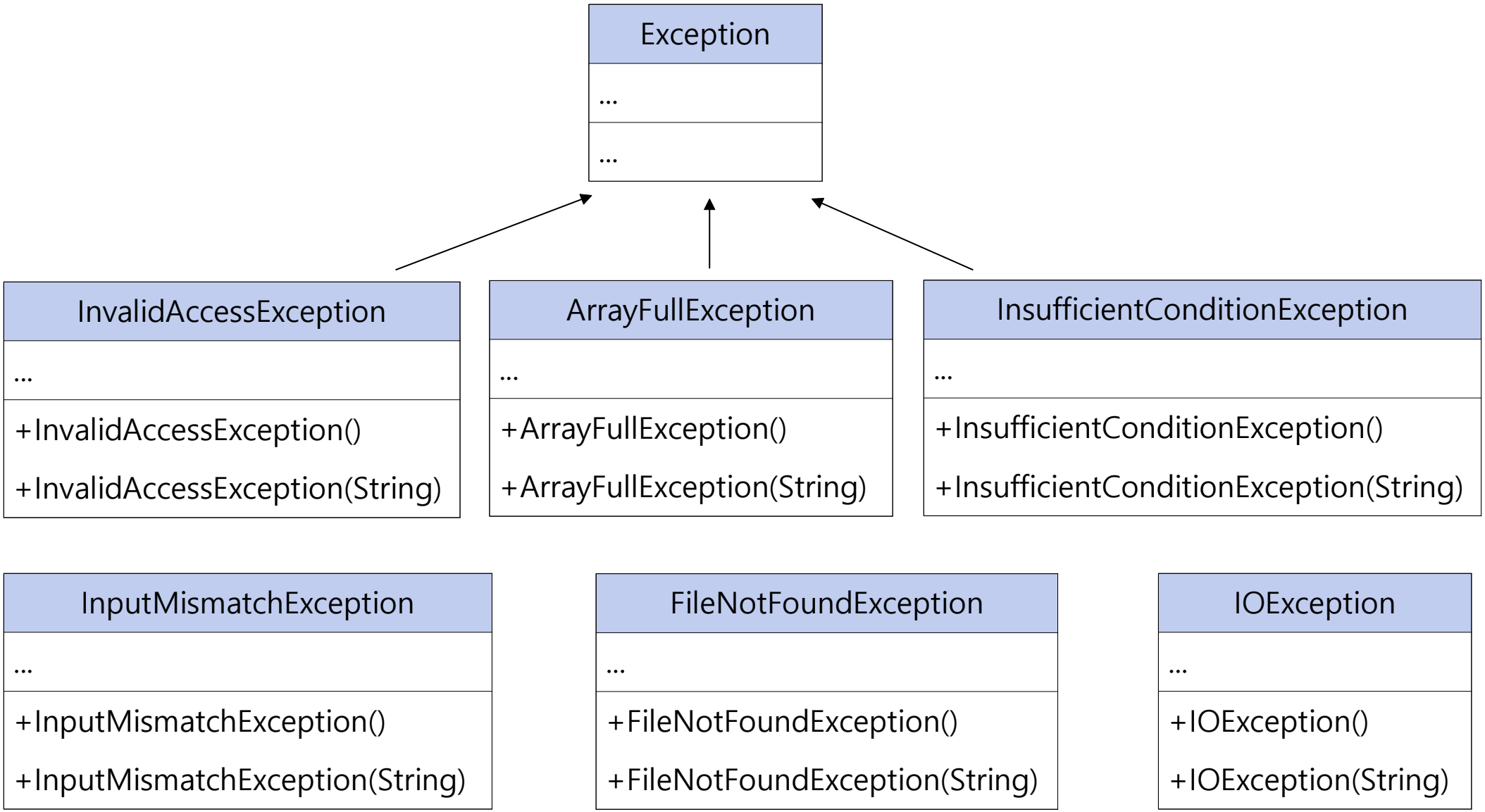
UML


Activity
-name : String
-location : String
-price : int
+getActualPrice(Person) : int
...
Person
-name : String
-age : int
-height : int
-weight : int
...
Schedule
-name : String
-days : int
-plan : Activity[][]
-expense : int
-member : Person[]
+scheduleNum : int
+setPlan(Activity,int,int) : int
+removePlan(int,int) : int
+print(int,int) : String
+printSchedule()
...
ExtremeActivity
-minHeight : int
-minWeight : int
...
ShowActivity
-minAge : int
...
TravelScheduler
+main(String[])


Exception
...
...
InvalidAccessException
...
+InvalidAccessException()
+InvalidAccessException(String)
ArrayFullException
...
+ArrayFullException()
+ArrayFullException(String)
InsufficientConditionException
...
+InsufficientConditionException()
+InsufficientConditionException(String)
InputMismatchException
...
+InputMismatchException()
+InputMismatchException(String)
FileNotFoundException
...
+FileNotFoundException()
+FileNotFoundException(String)
IOException
...
+IOException()
+IOException(String)

프로그램 실행 설명

① Select schedule -> scheduleList 출력 & 번호 입력받기

-> ① Add activity -> activityList 출력 & 번호, 날짜, 시간 입력받기

② Remove activity -> 전체 스케쥴표, 가격 출력 & 삭제할 날짜, 시간 입력받기

③ Print schedule -> 전체 스케쥴표, 가격, 멤버 출력

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 1
1) with family
2) with friend
3) EMPTY SCHEDULE
4) EMPTY SCHEDULE
5) EMPTY SCHEDULE
Select a schedule: 1
1) Add activity
2) Remove activity
3) Print schedule
Select menu: 1
1) Hiking(Mountain, 0 won)
2) Horse Riding(Hill, 3000 won)
3) Concert(Concert Hall, 8000 won)
4) Watching movie(Theater, 11000 won)
5) Fishing(Sea, 15000 won)
6) Surffing(Beach, 20000 won)
7) Camping(Field, 30000 won)
8) Rope Sliding(Mountain, 40000 won)
9) Paragliding(Mountain, 50000 won)
10) Bungee Jumping(Mountain, 60000 won)
Select activity to do: 1
Enter the day to do activity: 1
Enter the time to do activity(9~20): 11
```

```
1) Add activity
2) Remove activity
3) Print schedule
Select menu: 2
-------------------------------------------------------
              Day 1       Day 2       Day 3
9:00          ----        ----        ----
10:00         ----        ----        ----
11:00         Hiking      ----        ----
12:00         ----        ----        ----
13:00         ----        ----        ----
14:00         ----        ----        ----
15:00         ----        ----        ----
16:00         ----        ----        ----
17:00         ----        ----        ----
18:00         ----        ----        ----
19:00         ----        ----        ----
20:00         ----        ----        ----
-------------------------------------------------------
Total expenses: 0 won
-------------------------------------------------------

Enter the day to remove activity: 1
Enter the time to remove activity: 11
Removed successfully
```

```
1) Add activity
2) Remove activity
3) Print schedule
Select menu: 3
-------------------------------------------------------------------------------
              Day 1       Day 2       Day 3       Day 4
9:00          ----        ----        ----        ----
10:00         ----        ----        ----        ----
11:00         ----        ----        ----        ----
12:00         ----        ----        ----        ----
13:00         ----        ----        ----        ----
14:00         ----        ----        ----        ----
15:00         ----        ----        ----        ----
16:00         ----        ----        ----        ----
17:00         ----        ----        ----        ----
18:00         ----        ----        ----        ----
19:00         ----        ----        ----        ----
20:00         ----        ----        ----        ----
-------------------------------------------------------------------------------
Total expenses: 0 won
-------------------------------------------------------------------------------

John Smith, 65, 181, 78
Peter Anderson, 30, 174, 68
Jenny Allen, 28, 167, 58
Peter Coolidge, 13, 150, 45
Kevin, 8, 125, 25
```

② Edit schedule -> ① Make a new schedule -> 이름, days, 멤버 입력받아 sch 생성

② Copy an existing sch -> scheduleList 출력

& 번호, 이름 입력받아 schedule 생성

③ End program -> 프로그램 종료

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 2
1) Make a new schedule
2) Copy an existing schedule
Select menu: 1
Enter a name for the schedule: with family
Enter travel days: 4
Enter number of member: 5
1) John Smith, 65, 181, 78
2) Peter Anderson, 30, 174, 68
3) Jenny Allen, 28, 167, 58
4) Peter Coolidge, 13, 150, 45
5) Kevin, 8, 125, 25
Choose member 1: 1
Choose member 2: 2
Choose member 3: 3
Choose member 4: 4
Choose member 5: 5
```

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 2
1) Make a new schedule
2) Copy an existing schedule
Select menu: 2
1) with family
2) EMPTY SCHEDULE
3) EMPTY SCHEDULE
4) EMPTY SCHEDULE
5) EMPTY SCHEDULE
Select the schedule to copy: 1
Enter a new schedule name: with friend
```

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 3
```

Exception Handling

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 1
1) with family
2) with friend
3) EMPTY SCHEDULE
4) EMPTY SCHEDULE
5) EMPTY SCHEDULE
Select a schedule: 1
1) Add activity
2) Remove activity
3) Print schedule
Select menu: 1
1) Hiking(Mountain, 0 won)
2) Horse Riding(Hill, 3000 won)
3) Concert(Concert Hall, 8000 won)
4) Watching movie(Theater, 11000 won)
5) Fishing(Sea, 15000 won)
6) Surffing(Beach, 20000 won)
7) Camping(Field, 30000 won)
8) Rope Sliding(Mountain, 40000 won)
9) Paragliding(Mountain, 50000 won)
10) Bungee Jumping(Mountain, 60000 won)
Select activity to do: 1
Enter the day to do activity: 1
Enter the time to do activity(9~20): 11
```

InvalidAccessException

```
1) Add activity
2) Remove activity
3) Print schedule
Select menu: 2
--------------------------------------------------------------------------------
                Day 1           Day 2           Day 3           Day 4
9:00            ----            ----            ----            ----
10:00           ----            ----            ----            ----
11:00           Hiking          ----            ----            ----
12:00           ----            ----            ----            ----
13:00           ----            ----            ----            ----
14:00           ----            ----            ----            ----
15:00           ----            ----            ----            ----
16:00           ----            ----            ----            ----
17:00           ----            ----            ----            ----
18:00           ----            ----            ----            ----
19:00           ----            ----            ----            ----
20:00           ----            ----            ----            ----
--------------------------------------------------------------------------------
Total expenses: 0 won
--------------------------------------------------------------------------------
John Smith, 65, 181, 78
Peter Anderson, 30, 174, 68
Jenny Allen, 28, 167, 58
Peter Coolidge, 13, 150, 45
Kevin, 8, 125, 25
Enter the day to remove activity: 1
Enter the time to remove activity: 11
Removed successfully
```

throws 사용

ArrayFullException

InsufficientConditionException

```
1) Add activity
2) Remove activity
3) Print schedule
Select menu: 3
--------------------------------------------------------------------------------
              Day 1         Day 2         Day 3         Day 4
9:00          ----          ----          ----          ----
10:00         ----          ----          ----          ----
11:00         ----          ----          ----          ----
12:00         ----          ----          ----          ----
13:00         ----          ----          ----          ----
14:00         ----          ----          ----          ----
15:00         ----          ----          ----          ----
16:00         ----          ----          ----          ----
17:00         ----          ----          ----          ----
18:00         ----          ----          ----          ----
19:00         ----          ----          ----          ----
20:00         ----          ----          ----          ----
--------------------------------------------------------------------------------
Total expenses: 0 won
--------------------------------------------------------------------------------
John Smith, 65, 181, 78
Peter Anderson, 30, 174, 68
Jenny Allen, 28, 167, 58
Peter Coolidge, 13, 150, 45
Kevin, 8, 125, 25
```

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 3
```

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 2
1) Make a new schedule
2) Copy an existing schedule
Select menu: 1
Enter a name for the schedule: with family
Enter travel days: 4
Enter number of member: 5
1) John Smith, 65, 181, 78
2) Peter Anderson, 30, 174, 68
3) Jenny Allen, 28, 167, 58
4) Peter Coolidge, 13, 150, 45
5) Kevin, 8, 125, 25
Choose member 1: 1
Choose member 2: 2
Choose member 3: 3
Choose member 4: 4
Choose member 5: 5
```

```
1) Select schedule
2) Edit schedule
3) End program
Select menu: 2
1) Make a new schedule
2) Copy an existing schedule
Select menu: 2
1) with family
2) EMPTY SCHEDULE
3) EMPTY SCHEDULE
4) EMPTY SCHEDULE
5) EMPTY SCHEDULE
Select the schedule to copy: 1
Enter a new schedule name: with friend
```

```java
package assignment2;

public class ArrayFullException extends Exception {
    public ArrayFullException() {
        super("Array full!");
    }

    public ArrayFullException(String message) {
        super(message);
    }
}
```

```java
package assignment2;

public class InsufficientConditionException extends Exception {
    public InsufficientConditionException() {
        super("Insufficiend condition!");
    }

    public InsufficientConditionException(String message) {
        super(message + " insufficient condition");
    }
}
```

```java
package assignment2;

public class InvalidAccessException extends Exception {
    public InvalidAccessException() {
        super("Invalid access!");
    }

    public InvalidAccessException(String message) {
        super("InvalidAccess" + message);
    }
}
```

```java
package assignment2;

public class Activity {
    private String name, location;
    private int price;

    public Activity() {
    }

    public Activity(String name, String location, int price) {
        this.name = name;
        this.location = location;
        this.price = price;
    }

    public String toString() {
        return name + "(" + location + ", " + price + " won)";
    }

    public int getPrice() {
        return this.price;
    }

    public String getName() {
        return this.name;
    }

    public int getActualPrice(Person person) {
        return price;
    }

    public boolean eqauls(Object obj) {
        if (obj == null)
            return false;
        else if (getClass() != obj.getClass())
            return false;
        else {
            Activity a = (Activity) obj;
            return name.equals(a.name) && location.equals(a.location) && price == a.price;
        }
    }
}
```

이미 존재하는 activity를 추가하려할 때 사용

```java
package assignment2;

public class ExtremeActivity extends Activity {
    private int minHeight;
    private int minWeight;

    public ExtremeActivity(String name, String location, int price, int minHeight, int minWeight) {
        super(name, location, price);
        this.minHeight = minHeight;
        this.minWeight = minWeight;
    }

    public int getActualPrice(Person person) {
        if (person.getAge() >= 60)
            return (int) (getPrice() * 1.3);
        else
            return getPrice();
    }

    public int getMinHeight() {
        return this.minHeight;
    }

    public int getMinWeight() {
        return this.minWeight;
    }
}
```

60세 이상은 30% 할증

```java
package assignment2;

public class ShowActivity extends Activity {
    private int minAge;

    public ShowActivity(String name, String location, int price, int minAge) {
        super(name, location, price);
        this.minAge = minAge;
    }

    public int getActualPrice(Person person) {
        if (person.getAge() <= 19)
            return (int) (getPrice() * 0.8);
        else
            return getPrice();
    }

    public int getMinAge() {
        return this.minAge;
    }
}
```

19세 이하는 20% 할인

```java
package assignment2;

public class Person {
    private String name;
    private int age, height, weight;

    public Person(String name, int age, int height, int weight) {
        this.name = name;
        this.age = age;
        this.height = height;
        this.weight = weight;
    }

    public Person(Person p) {
        this.name = p.name;
        this.age = p.age;
        this.height = p.height;
        this.weight = p.weight;
    }

    public String getName() {
        return this.name;
    }

    public int getAge() {
        return this.age;
    }

    public int getHeight() {
        return this.height;
    }

    public int getWeight() {
        return this.weight;
    }
}
```

copyconstructor

```java
package assignment2;

public class Schedule {
    private String name;
    private int days, expense;
    private Activity[][] plan;
    private Person[] member;
    public static int scheduleNum;

    public Schedule(String name, int days, Person[] member) {
        this.name = name;
        this.days = days;
        this.expense = 0;
        this.plan = new Activity[days][12];
        this.member = new Person[member.length];
        for (int i = 0; i < member.length; i++)
            this.member[i] = new Person(member[i]);
        scheduleNum++;
    }

    public Schedule(String name, Schedule s1, Person[] member) {
        this.name = name;
        this.days = s1.days;
        this.expense = s1.expense;
        this.plan = new Activity[days][12];
        for (int i = 0; i < days; i++)
            for (int j = 0; j < 12; j++)
                this.plan[i][j] = s1.plan[i][j];
        this.member = new Person[member.length];
        for (int i = 0; i < member.length; i++)
            this.member[i] = new Person(member[i]);
        scheduleNum++;
    }

    public String getName() {
        return this.name;
    }

    public int getExpense() {
        return this.expense;
    }
```

copyconstructor 이용

copyconstructor 이용

```java
public Person[] getMember() {
    return this.member;
}

public int setPlan(Activity activity, int day, int time) {
    if (plan[day - 1][time - 9] != null)
        return 0;
    for (int i = 0; i < this.days; i++)
        for (int j = 0; j < 12; j++)
            if (activity.equals(this.plan[i][j]))
                return 0;

    this.plan[day - 1][time - 9] = activity;
    for (Person m : member)
        this.expense += activity.getActualPrice(m);
    return 1;
}

public int removePlan(int day, int time) throws InvalidAccessException {
    if (day > this.days || day < 0 || time < 9 || time > 20 || plan[day - 1][time - 9] == null)
        throw new InvalidAccessException();
    for (Person m : member)
        this.expense -= this.plan[day - 1][time - 9].getActualPrice(m);
    this.plan[day - 1][time - 9] = null;
    return 1;
}

public String print(int day, int time) {
    if (plan[day - 1][time - 9] == null)
        return "----";
    else
        return this.plan[day - 1][time - 9].getName();
}
```

멤버별 actualprice 불러옴

멤버별 actualprice 불러옴

```
    public void printSchedule() {
        for (int i = 1; i <= days; i++)
            System.out.print("------------------");
        System.out.println();
        System.out.print("                ");
        for (int i = 1; i <= days; i++)
            System.out.printf("%-16s", "Day " + i);
        System.out.println();
        for (int i = 0; i < 12; i++) {
            System.out.printf("%-16s", i + 9 + ":00");
            for (int j = 1; j <= days; j++)
                System.out.printf("%-16s", print(j, i + 9));
            System.out.println();
        }
        for (int i = 1; i <= days; i++)
            System.out.print("------------------");
        System.out.println();
        System.out.println("Total expenses: " + getExpense() + " won");
        for (int i = 1; i <= days; i++)
            System.out.print("------------------");
        System.out.println();
    }
}
```

```java
package assignment2;

import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.IOException;
import java.util.InputMismatchException;
import java.util.Scanner;

public class TravelScheduler {

    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        Scanner inputStream = null;

        Schedule[] scheduleList = new Schedule[5];

        // activityList 초기화
        try {
            inputStream = new Scanner(new FileInputStream("ActivityList.txt"));
        } catch (FileNotFoundException e) {
            System.out.println("File ActivityList.txt was not found");
            System.out.println("or could not be opened.");
            System.exit(0);// File read/write에서 발생하는 Exception은 프로그램을 종료
        } catch (IOException e) {
            System.exit(0);// File read/write에서 발생하는 Exception은 프로그램을 종료
        }
        int activityNum = inputStream.nextInt();
        inputStream.nextLine();
        Activity[] activityList = new Activity[activityNum];
        for (int i = 0; inputStream.hasNextLine(); i++) {
            String s = inputStream.nextLine();
            String[] ss = s.split(", ");
            int price = Integer.parseInt(ss[3]);
            if (ss[0].equals("Activity")) {
                activityList[i] = new Activity(ss[1], ss[2], price);
            } else if (ss[0].equals("Show")) {
                int age = Integer.parseInt(ss[4]);
                activityList[i] = new ShowActivity(ss[1], ss[2], price, age);
            } else if (ss[0].equals("Extreme")) {
                int height = Integer.parseInt(ss[4]);
                int weight = Integer.parseInt(ss[5]);
                activityList[i] = new ExtremeActivity(ss[1], ss[2], price, height, weight);
            }
        }
```

File 읽어들이기 위해 필요 (ex. ActivityList.txt, MemberList.txt)

찾고자하는 파일 없을 때 예외 처리

요구된 입력 값이 타입 이외의 타입을 입력 받을때 예외 처리

찾고자하는 파일 없을 때 예외 처리

FileInputStream 이용해
ActivityList.txt 한줄씩 읽어들인 후 ", "를 기준으로 String 나눠주고
숫자는 int로 바꿔준후
ActivityList.txt 각 줄 맨앞의 Activity type 별로 Activity,
ShowActivity,
ExtremeActivity 객체 만들어줌

```java
// memberList 초기화
try {
    inputStream = new Scanner(new FileInputStream("MemberList.txt"));
} catch (FileNotFoundException e) {
    System.out.println("File MemberList.txt was not found");
    System.out.println("or could not be opened.");
    System.exit(0);// File read/write에서 발생하는 Exception은 프로그램을 종료
} catch (IOException e) {
    System.exit(0);// File read/write에서 발생하는 Exception은 프로그램을 종료
}
int memberNum = inputStream.nextInt();
inputStream.nextLine();
Person[] member = new Person[memberNum];
for (int i = 0; inputStream.hasNextLine(); i++) {
    String s = inputStream.nextLine();
    String[] ss = s.split(", ");
    int age = Integer.parseInt(ss[1]);
    int height = Integer.parseInt(ss[2]);
    int weight = Integer.parseInt(ss[3]);
    member[i] = new Person(ss[0], age, height, weight);
}

int input[] = new int[10];
int check = 0;

while (input[0] != 3) {// 3을 고르면 출력후 빠져나감
    try {
        System.out.println("1) Select schedule");
        System.out.println("2) Edit schedule");
        System.out.println("3) End program");
        System.out.print("Select menu: ");
        input[0] = scan.nextInt();
        if (input[0] > 3 || input[0] < 1)
            throw new InvalidAccessException();
    } catch (InvalidAccessException e) {
        System.out.println(e.getMessage());
    } catch (InputMismatchException e) {
        // 왜 scanner.nextLine만 써주면 문제가 해결되는가?
        // scanner에 이미 입력된 키를 모두 제거하기 위해
        // 저장되어있는 값을 제거
        scan.nextLine();
        System.out.println("Enter number!");
        continue;
    }
```

찾고자하는 파일 없을 때 예외 처리

FileInputStream 이용해
MemberList.txt 한줄씩 읽어들인 후
", "를 기준으로 String 나눠
int age, height, weight로 만들어
memberList 요소의 객체 만들기

입력값이 int 아닐 때 예외처리

범위 밖 입력시
예외처리

scan.nextLine() 안해주면 앞 내용 무한반복출력됨

```java
switch (input[0]) {
case 1:// 1) Select schedule
        // 만들어진 schedule을 나열
    for (int i = 0; i < scheduleList.length; i++) {
        if (scheduleList[i] != null)
            System.out.println(i + 1 + ") " + scheduleList[i].getName());
        else
            System.out.println(i + 1 + ") EMPTY SCHEDULE");
    }

    System.out.print("Select a schedule: ");
    try {
        input[1] = scan.nextInt();
        if (input[1] > scheduleList.length || input[1] < 0)
            throw new InvalidAccessException();
    } catch (InvalidAccessException e) {
        System.out.println(e.getMessage());
        break;
    } catch (InputMismatchException e) {
        scan.nextLine();
        System.out.println("Enter number!");
        break;
    }
    if (input[1] == 0 || scheduleList[input[1] - 1] == null) // 0 또는 EMPTY !
        continue;

    // Schedule을 선택하면 해당 schedule에 대한 수정 및 출력을 반복 수행
    do {
        System.out.println("1) Add activity");
        System.out.println("2) Remove activity");
        System.out.println("3) Print schedule");
        System.out.print("Select menu: ");
        try {
            input[2] = scan.nextInt();
            if (input[2] > 3 || input[2] < 0)
                throw new InvalidAccessException();
        } catch (InvalidAccessException e) {
            System.out.println(e.getMessage());
            continue;
        } catch (InputMismatchException e) {
            scan.nextLine();
            System.out.println("Enter number!");
            continue;
        }
```

입력값이 int 아닐 때 예외처리

범위 밖 입력시 예외처리

아래를 실행하지 않고 이전 메뉴로 돌아가기

int 아닐때

범위밖

do-while 시작점으로 (다시 입력 받기)

```java
switch (input[2]) {
case 0:
    break;
case 1:// input[1]에 add activity
    int occur = 0;
    do {
        occur = 0;
        for (int i = 0; i < activityList.length; i++)
            System.out.println(i + 1 + ") " + activityList[i].toString());
        try {
            System.out.print("Select activity to do: ");
            input[3] = scan.nextInt();
            if (input[3] > activityList.length || input[3] < 1)
                throw new InvalidAccessException("Activity");
            System.out.print("Enter the day to do activity: ");
            input[4] = scan.nextInt();
            if (input[4] > scheduleList.length || input[4] < 1)
                throw new InvalidAccessException("Day");
            System.out.print("Enter the time to do activity(9~20): ");
            input[5] = scan.nextInt();
            if (input[5] > 20 || input[5] < 9)
                throw new InvalidAccessException("Time");
        } catch (InvalidAccessException e) {
            System.out.println(e.getMessage());
            break;
        } catch (InputMismatchException e) {
            scan.nextLine();
            System.out.println("Enter number!");
            continue;
        }
```

없는 Activity 선택시 예외처리

없는 날짜 선택시 예외처리

없는 시간 선택시 예외처리

input이 int형이 아닐때 예외처리

```
try {
    if (activityList[input[3] - 1] instanceof ShowActivity) {
        ShowActivity s = (ShowActivity) activityList[input[3] - 1];
        for (Person m : scheduleList[input[1] - 1].getMember())
            if (m.getAge() < s.getMinAge())
                throw new InsufficientConditionException("age");
        check = scheduleList[input[1] - 1].setPlan(s, input[4], input[5]);
    } else if (activityList[input[3] - 1] instanceof ExtremeActivity) {
        ExtremeActivity e = (ExtremeActivity) activityList[input[3] - 1];
        for (Person m : scheduleList[input[1] - 1].getMember())
            if (m.getHeight() < e.getMinHeight() || m.getWeight() < e.getMinWeight())
                throw new InsufficientConditionException("height of weight");
        check = scheduleList[input[1] - 1].setPlan(e, input[4], input[5]);
    } else
        check = scheduleList[input[1] - 1].setPlan(activityList[input[3] - 1], input[4], input[5]);

    if (check == 0)
        System.out.println("Fail to add activity");
} catch (InsufficientConditionException e) {
    System.out.println(e.getMessage());
    occur = 1;
}
} while (occur == 1);
break;
```

```
        case 2:// input[1]에 remove activity
            scheduleList[input[1] - 1].printSchedule();
            try {
                System.out.print("Enter the day to remove activity: ");
                int day = scan.nextInt();
                System.out.print("Enter the time to remove activity: ");
                int time = scan.nextInt();
                check = scheduleList[input[1] - 1].removePlan(day, time);
                if (check == 1)
                    System.out.println("Removed successfully");
                break;
            } catch (InvalidAccessException e) {
                System.out.println(e.getMessage());
                continue;
            } catch (InputMismatchException e) {
                scan.nextLine();
                System.out.println("Enter number!");
                continue;
            }

        case 3:// input[1]에 print schedule
            scheduleList[input[1] - 1].printSchedule();
            for (Person m : scheduleList[input[1] - 1].getMember())
                System.out.println(
                        m.getName() + ", " + m.getAge() + ", " + m.getHeight() + ", " + m.getWeight());

            break;
        }
    } while (input[2] != 0);
    break;
```

removePlan()의 throws 이용

멤버출력

```java
case 2:// 2) Edit schedule //Schedule를 초기화하며 생성
    do {
        System.out.println("1) Make a new schedule");
        System.out.println("2) Copy an existing schedule");
        try {
            System.out.print("Select menu: ");
            input[6] = scan.nextInt();
            if (input[6] > 2 || input[6] < 0)
                throw new InvalidAccessException();
            if (Schedule.scheduleNum == 5)
                throw new ArrayFullException();
        } catch (InvalidAccessException e) {
            System.out.println(e.getMessage());
        } catch (ArrayFullException e) {
            System.out.println(e.getMessage());
        } catch (InputMismatchException e) {
            scan.nextLine();
            System.out.println("Enter number!");
            continue;
        }
```

int 아닐때 예외처리

범위 밖 선택시 예외 처리

스케쥴 꽉 찼을 때 예외처리

```java
        switch (input[6]) {
        case 0:
            break;
        case 1:// 1) Make a new schedule
            scan.nextLine(); ;chedule 이름, 전체 일 수를 입력 받아서 schedule 생성
            String name = null;
            try {
                System.out.print("Enter a name for the schedule: ");
                name = scan.nextLine();
            } catch (InputMismatchException e) {
                System.out.println("Enter String!");
            }
            int days = 0;
            try {
                System.out.print("Enter travel days: ");
                days = scan.nextInt();
                if (days <= 0)
                    throw new InvalidAccessException();
            } catch (InvalidAccessException e) {
                System.out.println(e.getMessage());
                continue;
            } catch (InputMismatchException e) {
                scan.nextLine();
                System.out.println("Enter number!");
                break;
            }
```

int 예외처리

범위밖 입력 예외처리

```
int num = 0;
try {
    System.out.print("Enter number of member: ");
    num = scan.nextInt();
    scan.nextLine();
    if (num > member.length || num < 0)
        throw new InvalidAccessException();
} catch (InvalidAccessException e) {
    System.out.println(e.getMessage());
    continue;
} catch (InputMismatchException e) {
    scan.nextLine();
    System.out.println("Enter number!");
    continue;
}
Person[] members = new Person[num];
int mem = 1;
for (Person m : member) {
    System.out.println(mem + ") " + m.getName() + ", " + m.getAge() + ", " + m.getHeight()
            + ", " + m.getWeight());
    mem++;
}
for (int i = 0; i < num;) {
    int n = 0;
    try {
        System.out.print("Choose member " + (i + 1) + ": ");
        n = scan.nextInt();
        scan.nextLine();
        if (n > member.length || n < 0)
            throw new InvalidAccessException();
    } catch (InvalidAccessException e) {
        System.out.println(e.getMessage());
    } catch (InputMismatchException e) {
        scan.nextLine();
        System.out.println("Enter number!");
        continue;
    }
    members[i] = new Person(member[n - 1]);
    i++;
}

scheduleList[Schedule.scheduleNum] = new Schedule(name, days, members);
break;
```

멤버 수 입력받기

멤버 수 만큼 Person array 생성

MemberList.txt 에서 얻은 member List 출력

1~member.length 사이의 올바른 값을 입력 받아 members 배열의 요소 생성

입력받은 schedule의 이름과 전체 일 수와 멤버로 ScheduleList의 다음번째 요소 생성

```
            case 2:// 2) Copy an existing schedule
                    // Copy an exist schedule
                for (int i = 0; i < scheduleList.length; i++) {
                    if (scheduleList[i] != null)
                        System.out.println(i + 1 + ") " + scheduleList[i].getName());
                    else
                        System.out.println(i + 1 + ") EMPTY SCHEDULE");
                }
                try {
                    System.out.print("Select the schedule to copy: ");
                    input[7] = scan.nextInt();
                    scan.nextLine();
                    if (input[7] > Schedule.scheduleNum || input[7] < 0)
                        throw new InvalidAccessException();
                } catch (InvalidAccessException e) {
                    System.out.println(e.getMessage());
                    continue;
                } catch (InputMismatchException e) {
                    scan.nextLine();
                    System.out.println("Enter number!");
                    continue;
                }
                String s_1 = null;
                try {
                    System.out.print("Enter a new schedule name: ");
                    s_1 = scan.nextLine();
                } catch (InputMismatchException e) {
                    System.out.println("Enter String!");
                    continue;
                }
                scheduleList[Schedule.scheduleNum] = new Schedule(s_1, scheduleList[input[7] - 1], member);
                break;
            }
        } while (input[6] != 0);
        break;

    case 3:// 3) End program
        break;
    }

}
scan.close();
inputStream.close();
}

}
```

입력받은 schedule번호와 이름으로 ScheduleList의 다음번째 요소 생성

프로그램 종료