MAKERERE UNIVERSITY COLLEGE OF COMPUTING AND INFORMATION SCIENCES

SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

CSC 3112: PRINCIPLES OF PROGRAMMING LANGUAGES

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ASSIGNMENT PROJECT

GROUP NH

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INTRODUCTION

This is a group NH report on assignment project. This project is a console program that can be used by management of Cinemax theatre to assign and book seats, and sell tickets for performances. The cinema has 16, rows and 20 seats in each row.

PROGRAMMING LANGUAGE CHOICE

We used python throughout the whole project. Python is an advanced, interpreted and general-purpose dynamic programming language which is preferred among programmers over Java and C++.

With a focus on code readability and making programming easy. The language is highly useful for a range of applications such as web development, scientific computing and education.

The language is also well-known among developers for its numerous programming standards. The language is also well-known among developers for its comprehensive nature and large standard library with automatic memory management and vibrant features.

REASONS FOR CHOICE OF PROGRAMMING LANGUAGE

Our group has an intermediate skill level in python than any other languages we listed capable of finishing the project, other reasons for choosing python include:

Python is rich with a vast number of resources. Its broad library that features built-in functionality adds to the overall convenience offered with its usage. This in fact covers a wide range of sectors such as string operations, internet protocols, operating system interfaces and web services tools. Its library provides good support and assistance for internet protocols such as JSON, HTML and XML, and e-mail processing. In addition to a huge and comprehensive standard library, it features automatic memory management with a garbage collector and a dynamic type system.

Python owes a great deal of its flexibility to the many programming environments and frameworks that make the development of specific applications quick and easy. For example, web developers can turn to frameworks like Django or Flask, which let you focus on writing the app or site rather than get bogged down by tedious legwork.

STEPS WENT THROUGH

1. Choosing appropriate language for the project.
   We listed various languages (python, JavaScript, Java, C, C++, C#) and chose the best (python)
2. We listed any functions i.e. booking seats, and sales calculation functions and wrote pseudo code for them
3. Designed program flow
4. Wrote code for the program
5. Tested for bugs

SCREENSHOTS AND SAMPLE OUTPUTS


```
 Cinemax Movie Night
SpiderMan Far From Home
Date: November 5, 2018, Time: 8:00 PM
08:19:44

 Seat                          Seat Price              Selection
Twin Seats(1)                  25,000                  1
VVIP(2)                        100,000                 2
VIP(3)                         50,000                  3
Economy(4)                     20,000                  4
Please make your selection: 1
Please enter number of seats you want to book: 1
Would you like to book more Seats ? (y/n): n
```

Figure 1 first screen selection of number of seats

```
availabe seats are marked with *
        1    2    3    4    5    6    7    8    9    10   11   12   13   14   15   16   17   18   19   20

1       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
2       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
3       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
4       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
5       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
6       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
7       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
8       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
9       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
10      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
11      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
12      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
13      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
14      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
15      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
16      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
Please Enter the row of desired seat : 1
Please enter number for the column of desired seat: 1
```

Figure 2 choosing seat rows and columns

```
        1    2    3    4    5    6    7    8    9    10   11   12   13   14   15   16   17   18   19   20

1       #    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
2       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
3       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
4       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
5       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
6       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
7       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
8       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
9       *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
10      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
11      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
12      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
13      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
14      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
15      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
16      *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *    *
Your seat has been booked!
Number of seats available:  319
Total sales: shs.  25000
```
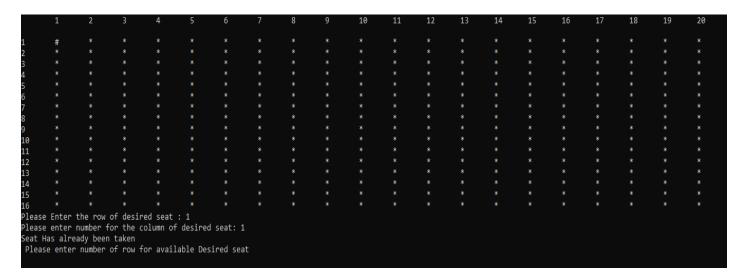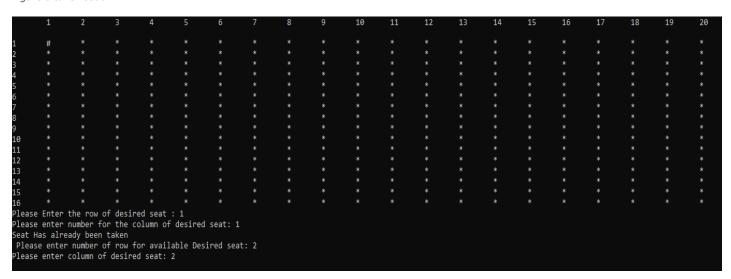
Figure 3 final screen

```
 Cinemax Movie Night
SpiderMan Far From Home
Date: November 5, 2018, Time: 8:00 PM
08:33:04

 Seat                          Seat Price              Selection
Twin Seats(1)                  25,000                  1
VVIP(2)                        100,000                 2
VIP(3)                         50,000                  3
Economy(4)                     20,000                  4
Please make your selection: 1
Please enter number of seats you want to book: 2
Would you like to book more Seats ? (y/n): n
```

Figure 4 booking multiple seats

Figure 5 choosing seat

Figure 6 taken seat

Figure 7 choosing another seat

Figure 8 final screen total sales