Bluegrass Community and Technical College

Programming Requirements Document

Food Trucks – Practice with if and switch Structures

NARRATIVE DESCRIPTION

A Lexington community park supports local food trucks by allowing the trucks to sell food from 11:00 AM – 2:00 PM each day. Different turcks are invited each week. The park also sponsors special evening events in a park pavillion: trivia is offered on Mondays and karaoke on Fridays. For example, the following is a generic schedule for the community park. The red text changes each week. The names of the food trucks would be different, the theme for trivia night varies, and the style of karaoke music varies.

Sunday Night:
- *Name of first food truck*
- *Name of second food truck*

Monday Night:
- *Name of first food truck*
- *Name of second food truck*
- *SPECIAL EVENT: Trivia Night (theme specified)*

Tuesday Night:
- *Name of first food truck*
- *Name of second food truck*

Wednesay Night:
- *Name of first food truck*
- *Name of second food truck*

Thursday Night:
- *Name of first food truck*
- *Name of second food truck*

Friday Night:
- *Name of first food truck*
- *Name of second food truck*
- *SPECIAL EVENT: Karaoke Night (theme specified)*

Saturday Night:
- *Name of first food truck*
- *Name of second food truck*

To customize this application, you will select a name for the park, the name of food trucks, the theme for trivia night, and the style of karaoke music. Feel free to be creative with the names. They do not need to be "real" names. Your program will not use color. It is shown above for emphasis only.

DO NOT START CODING YET – READ THIS ENTIRE HANDOUT FIRST.

To complete the assignment, you will need to:

- Input an integer that represents a day of the week (1 for Sunday, 2 for Monday, … , 7 for Saturday)
- Starting with that day of the week, display a schedule for the food trucks and events for the remainder of the week (through Saturday)

For example, if the user enters 5, the application would display (including the input prompt and indentation):

Welcome to <name of the park>.

We are delighted you are interested in the food trucks coming to our park and our special events.

Please enter a day of the week (1 for Sunday, 2 for Monday, … ,7 for Saturday): 5

Food trucks and events for the remainder of the week:

Thursday Night:
Name of first food truck
Name of second food truck
Friday Night:
Name of first food truck
Name of second food truck
SPECIAL EVENT: Karaoke Theme
Saturday Night:
Name of first food truck
Name of second food truck

If the user enters 7, the following is displayed

Welcome to <name of the park>.

We are delighted you are interested in the food trucks coming to our park and our special events.

Please enter a day of the week as a number in the range 1 – 7 (1 is Sunday, 2 is Monday, … , 7 is Saturday): 7

Food trucks and evens for the remainder of the week:

Saturday Night:
Name of first food truck
Name of second food truck

If the user enters 1, the entire schedule is displayed. Your customized names for the park, trucks, and themes would appear in place of the generic data in the examples.

PART 1:

Read the PDF file entitled ***Food Trucks with If Statements*** *(found in Blackboard)*. This illustrates how beginning programmers often use if statements to solve this problem. **Read each of the solutions.** You are responsible for understanding how this could be solved using an if structure. Pay attention to ways to avoid duplicate code and extra work when if statements are used.

PART 2:

Your assignment is complete a version of this program using a **switch** structure. For this assignment, if statements are not permitted (since you have been provided sample solutions).

You are not permitted to use loops. We will focus on repetition structures next week. Using the proper format of a switch structure, you will not need a loop. You are not permitted to use arrays. We will learn about arrays later in the course.

This assignment can be done without repetitive code. Keep this in mind as you design and test your solutions.

Use a **switch** structure(s) to determine which lines to display from the schedule based upon the day entered.

HINT: If break statements are omitted from case clauses in a switch structure, multiple clauses can be executed. If break statements appear in each clause, only one clause is executed.

- If the user enters an invalid number (not in the range 1-7), display an appropriate error message. *This can be handled inside of the same switch structure using the default clause. You do not need a separate if-statement for this.*
- The grade for this assignment will reflect correctness and efficiency of programming (no duplicate code, etc.)

NEW CONCEPTS ASSESSED AND ILLUSTRATED (IN ADDITION TO ANY PREVIOUSLY LEARNED)

- The Java switch structure.
- Formatting output in a pleasing manner.
- Error-checking.
- Efficiency of code – no duplicate code.

SOFTWARE REQUIREMENTS (CHECK LIST(

- ☐ Display headings for the application when it begins. (This should include the name of the park and a title for what the program does.)
- ☐ Repetition structures and arrays are not used.
- ☐ Switch case statements are ordered to avoid repetitive code.
- ☐ Error-checking for user input (day number) is performed within the switch structure.
- ☐ Days are displayed in chronological order.
- ☐ Thought was given to the names of the food trucks and the special events (themes). Students select the name of the park, food trucks, and themes for trivia night and karaoke night.
- ☐ All input prompts and output should be clear to the user.
- ☐ Previous standard requirements are included (documentation, selection of proper data types, constants, etc.).

SECURITY CONSIDERATIONS

The correct data type is selected for numeric values. Error-checking is performed on user input.