

CS1428 Lab 4: Fall 2020

Name: Jason McKinnerney JLM573

Lab Section: LAB 17

Type your name at the top of this sheet. Answer the following questions and turn in this sheet before the end of class. You may use the pre-lab, your book or internet resources to assist you.

1. (5 pts) Explain why you cannot convert the following if/else if statement into a switch statement.

```
if (kenny == 5)
    x = 0;
else if (stan > 777)
    x = 1;
else if (eric < .5)
    x = -1;
```

To do a switch statement, the variable must stay the same.

2. (15 pts) Rewrite the following code, in the box provided, from an IF-ELSE IF statement to a switch statement.

```
if(choice == 5)
{
    var *= 15;
}
else if(choice == 4 || choice == 2)
{
    var *= 25;
}
else if(choice == 3)
{
    var *= 35;
}
else
{
    var *= 45;
}
```

Switch Statement:

```
switch (choice)
{
    case 15:
        var *= 15;
        break;
    case 4:
    case 2:
        var *= 25;
        break;
    case 3:
        var *= 35;
        break;
    default:
```

3. (50 pts) Create a calorie counting program, using the provided code “Lab 4 Program.cpp” in Canvas, that is able to calculate the total amount of calories consumed for one person.

- The amount of calories in each serving are as follows:
 - Pizza – 500 calories
 - Salad – 150 calories
 - Hamburger – 450 calories
- Use a switch statement to evaluate the user’s meal choice. The user can input the following values:
 - P - Pizza
 - S - Salad
 - H - Hamburger
- Make sure you handle error checking (i.e. invalid meal choice, invalid serving amount)
 - Terminate the program if there is bad input
 - Provide an error message explaining why there is a problem
 - Do not use more than one return statement in your program.

Sample Run 1:

```
Welcome to the Calorie Count-ulator!
Enter your meal choice ([P]izza, [S]alad, [H]amburger):
P
Enter the amount of servings (1-9):
2
Total calories consumed: 1000
```

Sample Run 2:

```
Welcome to the Calorie Count-ulator!
Enter your meal choice ([P]izza, [S]alad, [H]amburger):
H
Enter the amount of servings (1-9):
0
ERROR: Invalid serving amount. Terminating the program.
```

Sample Run 3:

```
Welcome to the Calorie Count-ulator!
Enter your meal choice ([P]izza, [S]alad, [H]amburger):
Q
ERROR: Invalid meal choice. Terminating the program.
```

WRITE your name in the authorship comments at the top of your program.

UPLOAD this pdf with your answers filled in and your source code as lab4.cpp to Canvas.