

# Assignment 7

## Introduction

You have been tasked to design an expert system for a famous ski resort! The system will allow a user to budget out his/her day by providing it with information. The resort has requested the user to

1. Enter his/her budget for the day.
2. Indicate the type of ticket to purchase.
3. Enter his/her age.

The expert system should calculate how much money the user spent and deduct it from the user's budget. The expert system should print how much money the user has left, as well as a message indicating whether the user overspent.

## Lift Ticket Prices

The resort sells three types of full day tickets:

1. Adult (age 18 - 65) - \$45.00
2. Senior (age 66+) - \$30.00
3. Junior (age 0 - 17) - \$30.00

The resort also sells half day tickets. A half day ticket costs 50% of the price of a full day ticket.

Unfortunately, the resort resides in a state that has a 5% tax. The tax should be added to the ticket price at the end of the purchase.

## Requirements and Grading

30 points	A function named <b>purchase_lift_ticket(budget)</b> should prompt the user for what type of ticket they want to purchase (full day or half day)(and return an error message and to re-input the ticket type if the user enters an incorrect option) and the user's age using easy-to-understand messages (10 points). The function should then calculate and return how much money the user has left after the lift ticket is purchased. (20 points).	
30 points	A function <b>create_ski_day_budget()</b> exists that: Asks the user to enter his/her daily budget in dollars (5 points). Passes the user's budget through the function <b>purchase_lift_ticket(budget)</b> (10 points). Prints a message indicating (1) the user's final balance and (2) whether the user overspent or stayed in budget. (15 points).	
10 points	You may assume that the user will enter the budget. You may assume that the user will enter an integer for his/her age. However, keep prompting the user for his/her age until a non-negative integer is entered.	
10 points	<b>if</b> statements are used properly in the solution.	

20 points	The Python solution is easy to understand, does not contain redundancies, is free of errors, and contains useful comments about what the program does in important places.	

### Sample Transcript

Welcome to Showdown!

What is your starting budget in dollars? >> 100

1. One-Day Ticket.

2. Half-Day Ticket.

What type of ticket do you want to purchase? >> 1

How old are you? >> 18

You were in budget. You still have \$52.75!