Python Assignment 2

Controlling Statements and Functions

1. Python Program to count the number of vowels in a string.
2. Python Program to reverse a given number.
3. Python Program to count the number of digits in a number.
4. Python Program to find the factorial of a number with and without using recursion.
5. Python Program to find the power of a number using recursion.
6. Python Program to find the sum of series: $1 + 1/2 + 1/3 + ….. + 1/N$.
7. Define a function that accepts roll number and returns whether the student is present or absent.
8. Define a function in python that accepts 3 values and returns the maximum of three numbers.
9. Define a function that accepts radius and returns the area of a circle.
10. A movie theater charges different ticket prices depending on a person's age. If a person is under the age of 3, the ticket is free; if they are between 3 and 12, the ticket is $10; and if they are over age 12, the ticket is $15. Write a loop in which you ask users their age, and then tell them the cost of their movie ticket
11. Write a function called make_album() that builds a dictionary describing a music album. The function should take in an artist name and an album title, and it should return a dictionary containing these two pieces of information. Use the function to make three dictionaries representing different albums. Print each return value to show that the dictionaries are storing the album information correctly.
Add an optional parameter to make_album() that allows you to store the number of tracks on an album. If the calling line includes a value for the number of tracks, add that value to the album's dictionary. Make at least one new function call that includes the number of tracks on an album.
12. Create a list containing the names of magicians and pass it to a function called show_magicians(), which prints the name of each magician in the list.