CSC111 - Computer Programming I Lab

Topics

Boolean expressions Conditional statements (if, switch)

1. Using the following class diagram, Write a program that recommends the number of calories a person should eat each day. Calories are units of energy found in all foods. Base your recommendation on the person's weight and whether the person has an active or sedentary (inactive) lifestyle. If the person is sedentary, that person's activity factor is 13. If the person is active, that person's activity factor is 15. Multiply the activity factor by the person's weight to get the recommended number of calories. Start your program by

   • having the user enter their weight, as a floating point number;

   • having the user enter whether they have active or sedentary lifestyle, as a character, 'A' for active or 'S' sedentary;

   • use a switch selection statement to use the appropriate calculation for the recommended calories for the selected lifestyle;

   • print out your results on the screen.

2. Write a program to display the name of the month for a given month number. The year starts month 1 as January and month 12 as December

3. Write a program to display the name of the day of week for a given number of the day of week. The week starts with day 1 as Sunday and ends with day 7 as Saturday

4. We would like to write a program that assists people in their calculations.

   When the program executes, the user is presented with a menu that contains three items:
   1- Arithmetic
   2- Geometry
3- Quit.
If the user chooses Arithmetic, a new menu is presented to him that contains the following items:
1- Calculate the Sum of 3 positive numbers entered by him,
2- Calculate the Product of a sequence of positive numbers entered by him,
3- Calculate the Largest Value in a sequence of positive numbers entered by him,
4- Calculate the Smallest Value
If the user chooses Geometry, a new menu is presented to him that contains the following items:
1- Circle,
2- Square,
If the user chooses Circle, the user is invited to enter the radius of a circle. Then he is presented with a menu containing the following items:
1- Change the radius,
2- calculate the perimeter,
3- calculate the area,
If the user chooses Square, the user is invited to enter the length of a square side. Then he is presented with a menu containing the following items:
1- Change the length of the side,
2- calculate the perimeter,
3- calculate the area,