***Lab 4– Control Statements and Loops***

1. Write a program to prompt 5 integers from the operator. Find the largest of those 5 integers and display it to the screen using if-else

**Sample input-output**

Number 1: 8

Number 2: 12

Number 3: 5

Number 4: 22

Number 5: 17

The largest is: 22

1. Write a program to receive a series of integers from the operator. Calculates the product of those integers and print the total to the screen when negative value is enter using if-else

**Sample input-output**

Please enter an integer: 2

Please enter an integer: 5

Please enter an integer: 4

Please enter an integer: -1

Total (product):40

1. Using a switch statement, write a program to prompt user to choose their favourite programming language. Choose 1 for C, 2 for Java, and 3 for VB.Net. Display the name of the programming language to the screen when they make the selection.
2. Write a program to find the sum of n numbers using for,while and do-while
3. Write a program to find the sum of n numbers using for,while and do-while
4. A scientist analyzed in an experiment the influence of curing temperature (variable temp) on the breaking strength (variable breaking) of three alloys (variable alloy). He had four ovens in which he simultaneously tested three alloys. He repeated his experiment on three different days (variable day).

Get the data by using following commands in

R: 2 url <- "http://stat.ethz.ch/Teaching/Datasets/WBL/legierung.dat"

d.alloy <- read.table(url, header = TRUE)

a) Which curing temperatures did the scientist use?

b) Construct a new factor variable breaking.class which indicates by the levels "low" and "high" if the breaking strength is greater than the mean breaking strength. What is the number of breaks which occur below the mean breaking strength? Hint: Use the function ifelse().

c) If the cumulative breaking strength exceeds 250, the scientist needs to calibrate the measurement system newly. How many measurements of breaking strength were done before the first calibration? You can assume that the order in the data represents the order in which the scientist measured the breaking strength. Hint: Count once by using a while-loop and once using a for-loop.