SLIIT
Discover Your Future

BSc (Hons) in Information Technology
Year 1

Tutorial 5

IT1010 – Introduction to Programming **Semester 1, 2020**

Question 1

What is the output of the following statements?

i. printf("%.2f\n", 3.446);

ii. printf("%.1f\n", 3.446);

Question 2

Write statements to,

i. Print the value 123.4567 with 2 digits precision.

ii. Print the value 3.14159 with three digits to the right of the decimal point.

iii. Print the value 333.546372 in a field width of 15 characters with precisions of 1,2,3,4 and 5.

Question 3

Draw a flow chart to enter the radius of a circle from the keyboard and display the diameter, the circumference and the area.

Convert the above flow chart into a C program.

Question 4

Draw a flow chart to enter the time duration of an event in seconds and display the hrs, minutes and seconds of the duration separately.

Additional Exercises

Question 1

a) What does the following print? Assume x = 2 and y = 3.

i. printf("*\n**\n***\n****\n*****\n");
ii. printf("%d", x + x);
iii. printf("x = ");
iv. printf("x=%d", x);
v. printf("%d = %d", x+y, y+x);
vi. /* printf("%d", x+y); */
vii. printf("\n");
viii. float z = 45.567;
printf("value is %.2f", z);

Question 2

To travel from home to SLIIT Campus, a particular student needs to take three buses. Draw a flow chart to input the fares of each bus and estimate the traveling expenditure of the student for the entire semester.

Convert the above flow chart into a C program.

(Assume that there are 5 days per week and 13 weeks for the semester).

Question 3

The simple interest on a loan is calculated by the formula

interest = principal * rate * days / 365

The preceding formula assumes that rate is the annual interest rate, and therefore includes the division by 365 (days). Develop a program that will input principal ,rate and days for several loans, and will calculate and display the simple interest for each loan

Question 4

The Body Mass Index (BMI) is given by

$$BMI = \frac{weightInKilograms}{heightInMeters \times heightInMeters}$$

Create a BMI calculator application that reads the user's weight then calculates and displays the user's body mass index.

Question 5

Write a C program to find the sum of series 1+2+3+4+..+n using the following formula. The program should take the value of n from the key board.

Sum = n * (n+1) * (1/2)

Question 6

Write a program that inputs one five-digit number, separates the number into its individual digits and prints the digits separated from one another.

Ex: if user types, 42139, the program should print 4 2 1 3 9