**C-Programming Lab Assignments, Aug-Dec 2016**

**Assignment-II**

**Programmes: B.Tech CSE/ECE/EEE (Sem. –I ) Duration: 2 -Lab Classes**

**Objective: Mainly focus is on Conditional Statements like if…else, switch-case .**

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**Assignment-II contains 12 Questions. Write C-programs for the all questions explained bellow. Then keep all the program in a folder, zip it and rename it by “Assignment\_2\_Roll” (For example “Assignment\_2\_ 16BTCSE01”) submit in Moodle.**

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| Q1. | WAP that will accept a signed integer and display both its sign and value.  *Example:* Number : -12 value=12 Sign= -  Number: 15 value=15 and Sign=+ |
| Q2. | **Leap Year Problem:** Check whether a Year is Leap Year or not.  *Hints:* The logic for Leap year is basically that:   1. A year is a leap year if it is divisible by 4 but not by 100. 2. If a year is divisible by both 4 and by 100, then it can only be a leap year if it is also divisible by 400. |
| Q3. | WAP to find the smallest number among 3 numbers. All numbers are accepted by program through keyboard |
| Q4. | WAP that will accept a number and check whether it is even or odd and display the result. |
| Q5. | **Finding Root:** WAP to that will accept the coefficients (a, b, c) of following mathematical equation and find and display both real roots if it exists.  **Hints:**  If b2 -4ac ≥ 0 then roots are real and then find the root as follows |
| Q6. | **ATM Money Withdraw Problem:** An ATM provides, appropriate numbers of 100s and 500s rupees currency when a customer gives a withdraw request of an amount multiple of 100, otherwise displays a message, “Invalid Amount. Not multiple of 100”.  **For example:**  if withdraw amount is request is: 300 100’s currency=3 and 500’s currency:0  if withdraw amount is request is: 2000 100’s currency=5 and 500’s currency:3  if withdraw amount is request is: 1550 “Invalid Amount. Not multiple of 100” |
| Q7. | **Armstrong** **Number** : WAP that will accept a 3-digit number from keyboard and check whether it is an Armstrong number or not. A number is an **Armstrong** number if sum of the cubes of its digits is equal to the number itself.  Example: 371 is an Armstrong number since 33 + 73 + 13 = 371. |
| Q8. | WAP that will accept a character from key board and perform followings –   1. If it is a small case character then it will convert to equivalent capital case character and display 2. If it is a capital case character then it will convert to equivalent small case character and display 3. If it is a special character or number then it will display the same character   **Example:** If input: a output: A , input: B output: b, input: & output:& |
| Q9. | WAP that will accept Basic Pay (BS) of an employee then calculate the Gross Pay (GP) and Net Pay (NP) as follows –  GP=BP+HRA + DA ; NP = GP-Tax |
| Q10. | WAP that will accept the aggregate mark and total marks of a student and finds the percentage of marks and display his/her grade. The grading system is as follows–   1. % of Marks between 90 to 100 is : Grade-A+ 2. % of Marks between 80 to 90 is : Grade-A 3. % of Marks between 70 to 80 is : Grade- B+ 4. % of Marks between 60 to 70 is : Grade-B 5. % of Marks between 50 to 60 is : Grade-C 6. % of Marks less than 50 is :Grade-F |
| Q11. | Write a menu based that will any numbers in between 1-7 and display:  **Monday** if number is 1 ... **Sunday** if number is 7 |
| Q12. | Write a menu based that will ask two integers ‘A’ and ‘B’ display the following menu –   1. Addition 2. Subtraction 3. Multiplication 4. Division   After entering a numeric equivalent of an option, it will perform opted operation and display the result.  **Example:** if A and B are 12 and 10 respectively and the option is 3 (Multiply ) the output of the program is:  Multiplication of 12 and 10 is : 120 |
|  | ***Assignment-II Ends Here…*** |