**SOFTWARE CONSTRUCTION (PRACTICALS) – SPRING 2013**

**EXPERIMENT 4 – RECOGNIZING IDENTIFIERS**

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| **DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | **Student Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |
| **Marks Obtained: \_\_\_\_\_\_\_\_** | | **COURSE: BESE 16 \_\_\_\_\_** | |
| **Deadline: 1200 hrs 25th Feb 2013** | | **Instructor: Engr. Umar Mahmud** | |
|  | **Instructions**   * This is a syndicate effort. At most **THREE** per syndicate. * Plagiarism is strictly forbidden. * Write your remarks next to the space provided. Submit hard copy of the report before deadline. Marks will be deducted for late submissions. | |  |
| 1. | **Objectives:**   1. Using regular expressions 2. Recognizing identifiers through regular expressions | |  |
| 2. | **Time Required:** 3 hrs | |  |
| 3. | **Programming Language:** Java/C++/C# | |  |
| 4. | **Software Required:**   1. Windows OS/Linux 2. NetBeans/MS Visual Studio | |  |
| 5. | **Language of an Identifier:** Assume an identifier for a Java/C++ language which can be formed using the following rules.   1. Identifier can only start with an alphabet or an underscore 2. It can have any number and any combination of alphanumeric (only) sequence following the first letter. 3. If underscore is the start letter then it must have another letter 4. The identifier must be finite. 5. The identifier cannot be a keyword, special character or operator as worked out in Experiment 03. | |  |
| 6. | Given the rules in Point 5 which is an identifier among : -   1. \_ 2. a 3. 12at 4. \_w2 5. myNumber 6. myName 7. \_\_ 8. ?newName 9. X1AGTYU 10. int | | (2) |
| 7. | For the program created in Experiment 03, update the **‘=’** to the assignment operator and **‘;’** as the end of statement marker. You have to update it in the IF-ELSE cases provided in your code. | |  |
| 8. | Create a function that for a given statement identifies whether it is an Identifier or not. | |  |
| 9. | Update the function created in Point 8 with Experiment 03. Print the symbol table for the following statements here.   1. int j = 92 ; 2. void main ( void ) 3. void myNewFunction ( int x , int y ) 4. int myVariable = 67 ; 5. float myDouble = 32.10 ; 6. if ( x != true ) 7. float pi = 3.1415 ; 8. if ( int y == 3 ) 9. int \_92At = 31 + 42 + 44 + 56 ; 10. char c = ‘ a ‘ ; | | (8) |