**Assignment - XIII**

**(ANOVA)**

**Deadline: 12th Nov**

1. A company wishes to test four different types of tires: A, B, C, and D. The tires lifetime as determined from their treads are given (in thousand of miles) in table 16.33, where each type has been tried on six similar automobiles assigned at random to the tires. Determine whether there is a significant difference between the tires at the 0.01 significance level.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| A | 33 | 38 | 36 | 40 | 31 | 35 |
| B | 32 | 40 | 42 | 38 | 30 | 34 |
| C | 31 | 37 | 35 | 33 | 34 | 30 |
| D | 29 | 34 | 32 | 30 | 33 | 31 |

1. Articles manufactured by a company are produced by three operators using three different machines. The manufacturer wishes to determine whether there is difference (a) between the operators and (b) between the machines. An experiment is performed to determine the number of articles per day produced by each operator using each machine; the results are shown in table. Provide the desired information, using a significance level of 0.05.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Operator | | |
|  | 1 | 2 | 3 |
| Machine A | 23 | 27 | 24 |
| Machine B | 34 | 30 | 28 |
| Machine C | 28 | 25 | 27 |

1. Write a program to obtain 7 samples of size n=5 from the housefly wing length population (given in assignment 8). Obtain the ANOVA table for these sample groups.