Assignment Requirements for linear regression program

Personal Software Process for Engineers

# Program Requirements

Write a program to calculate the linear regression parameters  and  for *n* data sets.

Thoroughly test the program. At a minimum, run the following three test cases:

* Test 1: Use the data in Table D8 (p. 756) for estimated object LOC and actual new and changed LOC.
* Test 2: Use the data in Table D8 (p. 756) for estimated new and changed LOC and actual new and changed LOC.
* Test 3: Use the estimated new and changed LOC and the actual new and changed LOC for your Programs 2A, 3A, and 7E.

|  |  |  |  |
| --- | --- | --- | --- |
| Program Number | Estimated Object  LOC | Estimated New and  Changed LOC | Actual New and  Changed LOC |
| 1 | 130 | 163 | 186 |
| 2 | 650 | 765 | 699 |
| 3 | 99 | 141 | 132 |
| 4 | 150 | 166 | 272 |
| 5 | 128 | 137 | 291 |
| 6 | 302 | 355 | 331 |
| 7 | 95 | 136 | 199 |
| 8 | 945 | 1206 | 1890 |
| 9 | 368 | 433 | 788 |
| 10 | 961 | 1130 | 1601 |

Prepare a report of your tests that includes a table of the planned and actual results from these tests, using the format of Table D9.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test | Expected Results | Actual Results |  |  |
|  | β0 | β1 | β0 | β1 |
| 1 | −22.55 | 1.7279 |  |  |
| 2 | −23.92 | 1.4310 |  |  |
| 3 |  |  |  |  |

# Calculating the Regression Parameters

The formula for the regression parameter  is



The formula for the regression parameter  is



Document Markings

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