

Probability and Statistics (IT302) Lab Program - 3

Reg No 181067181IT102 - 181625181IT209

Determine the value c so that each of the following function can serve as a probability distribution of the Discrete Random Variable X : $f(x) = c(x^m + a)$, for $x = 0, 1, 2, \dots, n$; where 'm' represents degree and 'a' takes positive integer value. Use any one of the programming languages C/python/java/C++ to write a program to compute the aforesaid. Program should consider only the valid run-time inputs (m, n, and a values) and it should be terminated by displaying an error message onto the terminal for invalid input and also the same should be stored on separate output file as similar valid test case.

Sample Text Case

- $m=4$ $a=4$ $n=4$

Reg No 181620181IT211 - 181047181IT254

Determine the value c so that each of the following function can serve as a probability distribution of the Discrete Random Variable X : $f(x) = c \times {}^nC_r \times m^r C^{m-x}$, for $x = 0, 1, 2, \dots, n$; where 'C' represents combination and 'r' and 'm' take only positive integer value. Use any one of the programming languages C/python/java/C++ to write a program to compute the aforesaid. Program should consider only the valid run-time inputs (n, r, and m values) and it should be terminated by displaying an error message onto the terminal for invalid input and also the same should be stored on separate output file as similar valid test case.

Sample Text Cases

- $r=2$ $m=4$ $n=4$

Email subject should be PAS(IT302)-Lab-Program-3-Related-Files

File name of the program : RegisterNo_IT302_P3
(P3 indicates Lab Program Number-3)

File name of the screenshot : RegisterNo_IT302_P3_TCS1

(TCS1 indicates screenshot for the first test case, similarly, for other test cases TCS2, TCS3, TCS4, TCS5, TCS6)

File name of the Output File : RegisterNo_IT302_P3_Output_TC1.txt

(TC1 indicates output for the first test case, similarly, for other test cases TC2, TC3, TC4, TC5, TC6)

Date of Online Laboratory : 24th August 2020, Monday

Deadline of Submission : 24th August 2020, Monday (on or before 6:00PM)

Submit program file, all screenshots and all output files (output.txt) to the Email ID mentioned against the student name.

Note:

- Clarify the doubt(s) (if any) only on 24th August 2020 Monday at 12:30PM - 1:00PM.
- No/Zero marks for incomplete submission/late submission/incomplete program.

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