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1  /*****
2  /*
3  /*   A sample solution for Homework-1 Part-1.
4  /*
5  /*
6  /*****
7
8  /* Include libraries */
9  #include <stdio.h>
10 #include <math.h>
11
12 int main()
13 {
14     /* Variable declerations */
15     double z;
16     int n;
17     double result;
18
19     printf("z: ");
20     scanf("%lf", &z);
21
22     /* compute the function for n == 1*/
23     n = 1;
24     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
25     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
26
27     /* compute the function for n == 2*/
28     n = 2;
29     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
30     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
31
32     /* compute the function for n == 3*/
33     n = 3;
34     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
35     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
36
37     /* compute the function for n == 4*/
38     n = 4;
39     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
40     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
41
42     /* compute the function for n == 5*/
43     n = 5;
44     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
45     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
46
47     /* compute the function for n == 6*/
48     n = 6;
49     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
50     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);

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51
52     /* compute the function for n == 7*/
53     n = 7;
54     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
55     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
56
57     /* compute the function for n == 8*/
58     n = 8;
59     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
60     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
61
62     /* compute the function for n == 9*/
63     n = 9;
64     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
65     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
66
67     /* compute the function for n == 10*/
68     n = 10;
69     result = sqrt(z * ((1 - (n + 1) * pow(z, n) + n * pow(z, n + 1)) / (pow((1 - z), 2))) + exp(-z * n));
70     printf("f(%.1f, %2d) = %20.4f\n", z, n, result);
71
72     return 0;
73 }
74
75

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