Computer Programming I — Midterm Exam 1

2023/10/22

1. Write functions equal, addition, multiplication and division to complete the C++ program in Student ID-mid1-1.cpp.

2. Write a recursive function oddSum( int a, int b ) that returns the summation of all the odd integers in the range [a, b] provided that a is an odd integer. Use this function to solve UVa 10783 - Odd Sum.

Grading rule

1.

Output correct:

10% equal

20% addition

20% multiplication

20% division

Output not completely correct:

9% equal

18% addition

18% multiplication

18% division

2.

Accepted:

20% oddSum

10% main

Not accepted:

18% oddSum

9% main

|  |  |
| --- | --- |
| Sample Input | Sample Output |
| 2  0  6  2  6 | Case 1: 9  Case 2: 8 |
| 4  2  2  4  4  6  6  8  8 | Case 1: 0  Case 2: 0  Case 3: 0  Case 4: 0 |
| 100  89  99  58  61  9  99  42  88  46  96  72  86  70  98  5  26  46  100  60  99  61  96  55  90  31  87  6  43  30  38  18  95  21  36  34  42  29  31  43  43  28  91  14  54  20  64  76  81  6  86  47  74  68  96  3  99  46  82  11  71  31  85  87  96  18  37  15  88  30  32  22  58  24  39  42  55  25  89  77  97  37  96  23  63  26  32  27  80  39  98  23  91  52  95  12  76  63  89  20  95  18  59  8  50  50  57  71  82  5  67  0  24  3  48  29  35  40  56  14  45  19  71  13  34  10  22  77  92  73  86  97  99  4  71  27  48  18  88  76  93  85  100  55  59  13  88  20  56  43  71  62  65  7  100  41  97  76  99  14  73  36  85  12  55  60  73  48  60  23  44  18  29  23  77  2  50  5  64  6  22  42  54  34  50  19  41  12  95  40  85  8  91  87  88  11  60  47  59  58  86 | Case 1: 564  Case 2: 120  Case 3: 2484  Case 4: 1495  Case 5: 1775  Case 6: 553  Case 7: 1176  Case 8: 165  Case 9: 1971  Case 10: 1600  Case 11: 1404  Case 12: 1296  Case 13: 1711  Case 14: 475  Case 15: 136  Case 16: 2223  Case 17: 224  Case 18: 152  Case 19: 60  Case 20: 43  Case 21: 1920  Case 22: 680  Case 23: 924  Case 24: 237  Case 25: 1840  Case 26: 840  Case 27: 1148  Case 28: 2499  Case 29: 1152  Case 30: 1271  Case 31: 1624  Case 32: 455  Case 33: 280  Case 34: 1887  Case 35: 31  Case 36: 720  Case 37: 256  Case 38: 343  Case 39: 1881  Case 40: 957  Case 41: 1980  Case 42: 903  Case 43: 87  Case 44: 1431  Case 45: 2040  Case 46: 1995  Case 47: 1628  Case 48: 1408  Case 49: 1064  Case 50: 2204  Case 51: 819  Case 52: 609  Case 53: 216  Case 54: 456  Case 55: 1152  Case 56: 144  Case 57: 575  Case 58: 128  Case 59: 384  Case 60: 480  Case 61: 1215  Case 62: 253  Case 63: 96  Case 64: 672  Case 65: 553  Case 66: 196  Case 67: 1292  Case 68: 407  Case 69: 1855  Case 70: 765  Case 71: 736  Case 72: 171  Case 73: 1900  Case 74: 684  Case 75: 855  Case 76: 128  Case 77: 2491  Case 78: 2001  Case 79: 1056  Case 80: 1320  Case 81: 1525  Case 82: 748  Case 83: 469  Case 84: 324  Case 85: 363  Case 86: 144  Case 87: 1400  Case 88: 624  Case 89: 1020  Case 90: 112  Case 91: 288  Case 92: 336  Case 93: 360  Case 94: 2268  Case 95: 1449  Case 96: 2100  Case 97: 87  Case 98: 875  Case 99: 371  Case 100: 1008 |