CSCI 2110 Data Structures and Algorithms

Lab No. 5 Solutions

Sample output for exercise 1:

The first 20 numbers in the Fibonacci series is:

0,1,1,2,3,5,8,13,21,34,55,89,144,233,377,610,987,1597,2584,4181

The factorials of 1 to 10 are as below:

1!=1

2!=2

3!=6

4!=24

5!=120

6!=720

7!=5040

8!=40320

9!=362880

10!=3628800

Please enter value of x amd n:3 2

The power(3,2)=9

Sample output for exercise 2:

Please enter a positive integer n:10

10 9 8 7 6 5 4 3 2 1 BlastOff!

Sample output for exercise 3:

Please enter a positive integer n:10

10 8 6 4 2 BlastOff!

Please enter a positive integer n:9

9 7 5 3 1 BlastOff!

Sample output for exercise 4:

Please enter value of n and m:2 5

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The first 5 multiples of 2 is as below:

2,4,6,8,10

Please enter value of n and m:3 6

The first 6 multiples of 3 is as below:

3,6,9,12,15,18

Sample output for exercise 5:

Please enter value of n:1234

1

2

3

4

Sample output for exercise 6:

Please enter value of n:4

1*1+2*2+3*3+4*4=30

Sample output for exercise 7:

Number of discs	execution time (milliseconds)
8	1
12	0
16	1
20	6
24	85
28	1127
32	15883

Please enter the number of discs:8

the number of moves for a 8 discs is:256 with 1 millisecondes.

Please enter the number of discs:12

the number of moves for a 12 discs is:4095 with 0 millisecondes.

Please enter the number of discs:16

the number of moves for a 16 discs is:65535 with 1 millisecondes.

Please enter the number of discs:20

the number of moves for a 20 discs is:1048575 with 6 millisecondes.

Please enter the number of discs:24

the number of moves for a 24 discs is:16777215 with 85 millisecondes.

Please enter the number of discs:28

the number of moves for a 28 discs is:268435455 with 1127 millisecondes.

Please enter the number of discs:32

the number of moves for a 32 discs is:4294967295 with 15883 millisecondes.