

CPSC 319
Data Structures, Algorithms, and Their Applications
Winter 2024

Question 13

- Calculate the combination of n and r .
- Test case:
 - $n = 2, r = 1 \rightarrow 2$
 - $n = 4, r = 2 \rightarrow 6$

Question 14

- Calculate the number of ways that is possible to cover a $1 \times n$ grid by 1×1 and 1×2 tiles.
- Test case:
 - $n = 2 \rightarrow 2$
 - $n = 3 \rightarrow 3$

Question 15

- Calculate the number of ways that is possible to cover a $1 \times n$ grid by 1×2 and 1×3 tiles.
- Test case:
 - $n = 5 \rightarrow 2$
 - $n = 12 \rightarrow 12$
 - $n = 50 \rightarrow 525456$

Question 16

- Calculate the number of ways that is possible to cover a $2 \times n$ grid by 1×2 and 2×2 tiles.
- Test case:
 - $n = 2 \rightarrow 3$
 - $n = 5 \rightarrow 21$
 - $n = 30 \rightarrow 715827883$