

# CS0.101: Computer Programming (Section B)

## Quiz 1 (Fall 2023)

Duration: 45 mins

### Question 1: (5 marks)

Write a program to find the sum of first  $n$  even numbers. Here  $n$  can be taken to be an input from the user.

$2 + 4 + 6 + 8 \dots$   
 $2 \times 2$   
 $\frac{n}{2} [4 + (n-1)2]$   
 $n[2 + (n-1)]$   
 $n(n+1)$

### Question 2: (5 marks)

Explain the control flow between the RAM, Hard disk and the CPU after a program is written.

f - d - c

### Question 3: (5 marks)

Write  $-15$  in 1's complement form (assume 8-bit representation).

### Question 4: (5 marks)

State True/False with justification: Given two numbers  $x$  and  $y$ , the expression  $y \wedge ((x \wedge y) \& - (x < y))$  calculates the minimum of the two numbers.

### Question 5: (10 marks)

Write a program to print the following pattern

```
x _ x _ x _ 1
x _ x _ 2 _ x _ 3
x _ 4 x _ x 5      6
7      8      9      10
```