

Task1

- 1- (Final Velocity) Write a program that asks the user to enter the initial velocity and acceleration of an object, and the time that has elapsed, places them in the variables u , a , and t , and prints the final velocity, v , and distance traversed, s , using the following equations.

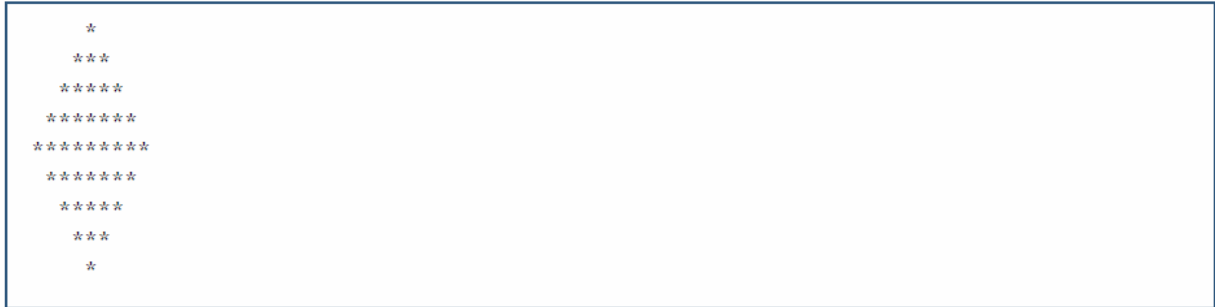
a) $v = u + at$

b) $s = ut + \frac{1}{2}at^2$

- 2- Write a program that inputs three different integers from the keyboard, then prints the sum, the average, the product, the smallest and the largest of these numbers. Use only the operators you have learned without if statement. The screen dialogue should appear as follows:

```
Enter three different integers: 13 27 14
Sum is 54
Average is 18
Product is 4914
Smallest is 13
Largest is 27
```

- 3- Write a program that asks the user to enter the total time elapsed, in seconds, since an event and converts the time to hours, minutes and seconds. The time should be displayed as hours:minutes:seconds. [Hint: Use the remainder operator]
- 4- Write a program to perform a generic rotate right and rotate left expression using bit masking. The code shall ask the user to enter an 8 bit number x , number of rotate cycles n and rotate option o . The software shall print the rotate value of x , n times based on the value of o .
- 5- Write a program that prints the following diamond shape. You may use printf statements that print either a single asterisk (*) or a single blank. Maximize your use of iteration (with nested for statements) and minimize the number of printf statements.



Each team shall **record a video** commenting on each problem and describe why they take this decision. (for lower video size you can use **zoom** for recording).

Submission Format:

- Five files *.c from problem1.c to problem5.c
- README.md file contains the team members' names, their bench numbers and the **drive link (access to anyone)** of the recorded video.

Not allowed to upload the video to GitHub or upload any other format except **.mp4** to the drive. (**Any other formats will not be graded**)

Github: <https://classroom.github.com/a/F6U1LKVB>

Deadline: 26/3/2025 @11:59 PM