تمرینات جلسه ۵

[1*] 1. Write a function called power takes two integers called base and exp and computes the value of base raised to the power exp and returns it. Call power with various parameters. try to handle large numbers. Hint: use long long as return type.

[2*] 2. Read a sequence of double values into a vector. Think of each value as the distance between two cities along a given route. Compute and print the total distance (the sum of all distances). Find and print the smallest and greatest distance between two neighboring cities. Find and print the mean distance between two neighboring cities. for smallest and greatest distances write the separate functions called smallest and greatest with the following declarations:

```
double smallest(const std::vector<double>&);

double greatest(const std::vector<double>&);
```

Take two approaches:

- Use structured programming constructs like *for* and *if* statements to compute smallest and greatest distances.
- Use generic algorithms *min_element* and *max_element* and replace your written code - the body of above functions - with these functions.

[1*] 3. Write a program that prompts the user to enter three integer values, and then outputs the values in numerical sequence separated by commas. So, if the user enters the values 10 4 6, the output should be 4, 6, 10. If two values are the same, they should just be ordered together. So, the input 4 5 4, should give 4, 4, 6. Note: Don’t use arrays and sort algorithm.