

1. using cmath functions

- Write a program that asks the user to enter an integer, reads the integer from the keyboard, and then computes the square (e.g., `pow(10,2)`) and the cube (e.g., `pow(10,3)`) of the integer and outputs those values.
- Echo back the user's input and clearly label the square and cube output.
- Don't forget to `#include <cmath>`
- Compile and run your program to make sure it works.

2. using ctype functions

- Write a program that asks the user to enter a word.
- Then, using ctype functions, convert each letter in the word to the opposite case and output the result.
For example, if I enter **Hello**, then the program should output **hELLO**.
- *Hint:* use `isupper()`, `islower()`, `tolower()` and `toupper`
- Compile and run your program to make sure it works.

3. writing your own functions

- Write a program that contains a function that will display the words "trick or treat".
- Invoke your function from the `main()`.
- Compile and run your program to make sure it works.

4. passing a value parameter to a function

- Make a copy of the program you wrote in step 1 above, and modify it as follows.
- Write a function called `square()` which takes one integer argument and displays (using `cout`) the value of the argument squared.
- Write another function called `cube()` which takes one integer argument and displays (using `cout`) the value of the argument cubed.
- Now in the `main()`, after you get the user's input, invoke your functions `square()` and `cube()` to perform the operations and display the result.
- Compile and run your program to make sure it works.

(over for more FUNctions!!!)

5. returning a value with a function

- Make a copy of the program you wrote above.
- Modify the two functions so that, instead of displaying the output, they return the value computed. i.e., the `square()` function returns the value of its argument squared and the `cube()` function returns the value of its argument cubed.
- Now in the `main()`, adjust the code so that after you get the computed values back from `square()` and `cube()`, you display the values from `main()` (not inside the functions like you did in the previous step)
- Compile and run your code to make sure it works.

6. passing a reference parameter to a function

- Make a copy of the program you wrote above.
- Modify the two functions so that, instead of *returning* the amounts computed as the functions' return values, they take a reference parameter and change the value of the reference parameter inside the function.
- Compile and run your code to make sure it works.