“Small” programming language:

Rules:

1. All upper-case letters [A-Z]
2. All lower-case letters [a-z]
3. All digits (0-9)
4. Seperators - (), [], {}, “”, ‘’, ``, white space
5. Not include preprocessor directives
6. Comment - //
7. Main is the main function. Start of the program.
8. For output (to print the result or what we want in the screeen) used reserved word print().
9. To print several
10. There is no ; used in code except in loop for(; ;)
11. Instead of import~#include used reserved word add to use functions from libraries
12. math is a library
13. There is no auto end line, you should use “\n” to go another line
14. A backslash is used(\) to do some special actions depends on what character is going after.
15. “\n” is for a new line
16. “ \” ” Inserts a double quote character
17. “\\” Inserts a backslash character (\)
18. “\t” creates a horizontal tab
19. Variable name cannot be started with number
20. Language is case-sensitive
21. For is a loop that used as in c++
22. Operators: + - \* / = < <= >= % == && ||
23. Reserved words: char, const, do, else, if, int, else if, Add, return, for, print, float, string, while
24. “” is used for strings
25. ‘’ is used for chars

P1.cpp

Add math

int main() {

    int isPrime = 9039

    for(int i = 2; i <= math.sqrt(isPrime)+1; i++) {

        if(isPrime%i == 0) {

           print("Not prime:(")

            return 0

        }

    }

    print("Prime number!")

    return 0

}

P2.cpp

// find the gcd of 2 numbers

Add math

int main() {

    int num1 = 10, num2 = 90, res = 1

    if (num1 > num2) {

        for(int i = 2; i <= math.sqrt(num1)+1; i++) {

            if(num1%i == 0 && num2%i == 0) {

                res = i

            }

        }

    } else {

        for(int i = 2; i <= math.sqrt(num2)+1; i++) {

            if(num1%i == 0 && num2%i == 0) {

                res = i

            }

        }

    }

    print(res)

    return 0

}

P3.cpp

Add math

// 2nd order equation

int main() {

    // ax^2 + bx + c = 0

    int a = 1, b = -2, c = -24

    float D = b\*b - 4\*a\*c

    print("First: ", (((-1)\*b + math.sqrt(D))/2\*a))

    print("Second: ", (((-1)\*b - math.sqrt(D))/2\*a))

    return 0

}

P1err.cpp

Add math

// 2nd order equation

int main() {

    // ax^2 + bx + c = 0

    int a = 1, b = -2, c = -24

    float D = b\*b - 4ac

    print("First: ", ((-1)\*b + math.sqrt(D))/2\*a), "\$")

    print("Second: ", (((-1)\*b - math.sqrt(D))/2\*a), "\n")

    return 0

}

1 error – “\$” - lexical error as '$' doesn't belong within special symbol that goes after backslash that used for special actions. There are three (\n, \t, \”, \\)

2 error – 4ac. It is not the variable name because variable name cannot be started with number.