First of all, you need to change the extension of the file to ".elf" to run it in Linux. Commands :

```
      mv math.out math.elf
      chmod +x math.elf
      ./math.elf # to run the file
```

Then, we decompile the file. We can see some functions in C++ of mathematics (of course) Here are the functions translated in Python :

math.py

```
import sys
sys.setrecursionlimit(100000)

def ecscisfun(param_1):
    if param_1 < 2:
        return 1
    else:
        iVar1 = tryharder(param_1 - 1)
        return iVar1 + param_1 * 2 + 0x539

def tryharder(param_1):
    if param_1 < 2:
        return 1
    else:
        iVar1 = ecscisfun(param_1 - 1)
        return iVar1 + (param_1 + 200) * 2

def eadsvfbdgw(param_1):
    if param_1 <= 1:
        return param_1
    else:
        iVar1 = eadsvfbdgw(param_1 - 1)
        iVar2 = eadsvfbdgw(param_1 - 2)
        return iVar2 + iVar1

def asberwefreqw(param_1):
    if param_1 < 2:
        return 1
    else:
        iVar1 = asberwefreqw(param_1 - 1)
        return iVar1 * param_1

def main():
    iVar1 = tryharder(8)
    iVar2 = eadsvfbdgw(0xf)  # 15
    iVar3 = eadsvfbdgw(7)
    iVar3 = eadsvfbdgw(iVar3)
    iVar4 = eadsvfbdgw(8)
    iVar4 = eadsvfbdgw(iVar4)
    iVar5 = eadsvfbdgw(8)
    iVar5 = eadsvfbdgw(iVar5)
    iVar6 = asberwefreqw(4)
    iVar7 = asberwefreqw(1)
    iVar7 = asberwefreqw(iVar7)
    iVar7 = eadsvfbdgw(iVar7)
    iVar8 = eadsvfbdgw(5)
    iVar8 = eadsvfbdgw(iVar8)

    local_24 = tryharder(0xb)  # 11
    local_24 = local_24 + iVar1 + iVar2 + iVar3 + iVar4 + iVar5 + iVar6 + iVar7
+ iVar8
```

```
    local_24 = tryharder(local_24 - 1)

    print(f"PIN-ul calculat este: {local_24}")
    print("THE PIN")

    user_input = int(input())
    if user_input == local_24:
        print(f"ECSC{{sha256({local_24})}}")
    else:
        print("Wrong Pin")

if __name__ == "__main__":
    main()
```
____

After the program is finished, the output is : 1420854615. So the flag is ECSC{sha256(1420854615)}

THE FLAG :
ECSC{70e0aacf1da33b84ab6235b03074c0ac7d0e12a6804d0931d5164cb77d6b3eb2}
~Z4que