{

    "": {

        "prefix": "euler\_totient\_counting\_coprimes",

        "body": [

          "const int M=1e5+2;",

          "int totient[M];",

          "",

          "void euler\_totient\_counting\_coprimes()",

          "{",

          "    for(int i=0; i<M; i++)",

          "    {",

          "        totient[i]=i;",

          "    }",

          "    for(int i=2; i<M; i++)",

          "    {",

          "        if(totient[i]==i) //if this condition is true this means i is prime",

          "        {",

          "            for(int j=2\*i; j<M; j+=i) //here we count for every multiple of j < M, the number of co-primes of that number",

          "            {",

          "                totient[j] \*= i-1;",

          "                totient[j] /= i;",

          "            }",

          "            totient[i] = i-1; //if i is prime then number of co-primes for i is going to be i-1",

          "        }",

          "    }",

          "}"

        ],

        "description": ""

      }

}