|  |
| --- |
| #include <stdio.h> |
|  |

|  |
| --- |
| #include <stdlib.h> |
|  |

|  |
| --- |
| #include <math.h> |
|  |

|  |
| --- |
| #define TAMANHO 100000 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| int eh\_primo(int numero) |
|  |

|  |
| --- |
| { |
|  |

|  |
| --- |
| int i; |
|  |

|  |
| --- |
| int raiz = sqrt(numero); |
|  |

|  |
| --- |
| if(numero < 2) return 0; |
|  |

|  |
| --- |
| if(numero == 2) return 1; |
|  |

|  |
| --- |
| if(numero % 2 == 0) return 0; |
|  |

|  |
| --- |
| for (i = 3; i <= raiz; i += 2) |
|  |

|  |
| --- |
| { |
|  |

|  |
| --- |
| if(numero % i == 0) return 0; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
| return 1; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| int main() { |
|  |

|  |
| --- |
| int i; |
|  |

|  |
| --- |
| int contador = 0; |
|  |

|  |
| --- |
| int primos[TAMANHO]; |
|  |

|  |
| --- |
| FILE\* fp; |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| for(i = 0; contador <= TAMANHO; i++) |
|  |

|  |
| --- |
| { |
|  |

|  |
| --- |
| if(eh\_primo(i)) |
|  |

|  |
| --- |
| { |
|  |

|  |
| --- |
| primos[contador] = i; |
|  |

|  |
| --- |
| contador++; |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| if((fp = fopen("arquivo.txt", "w"))==NULL) |
|  |

|  |
| --- |
| { |
|  |

|  |
| --- |
| printf("O arquivo não pôde ser aberto.\n"); |
|  |

|  |
| --- |
| exit(1); |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| for (i = 0; i < TAMANHO; i++) |
|  |

|  |
| --- |
| { |
|  |

|  |
| --- |
| fprintf(fp, "%d\n", primos[i]); |
|  |

|  |
| --- |
| } |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| fclose(fp); |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| return 0; |
|  |

}