Assignment 1

Scientific Programming

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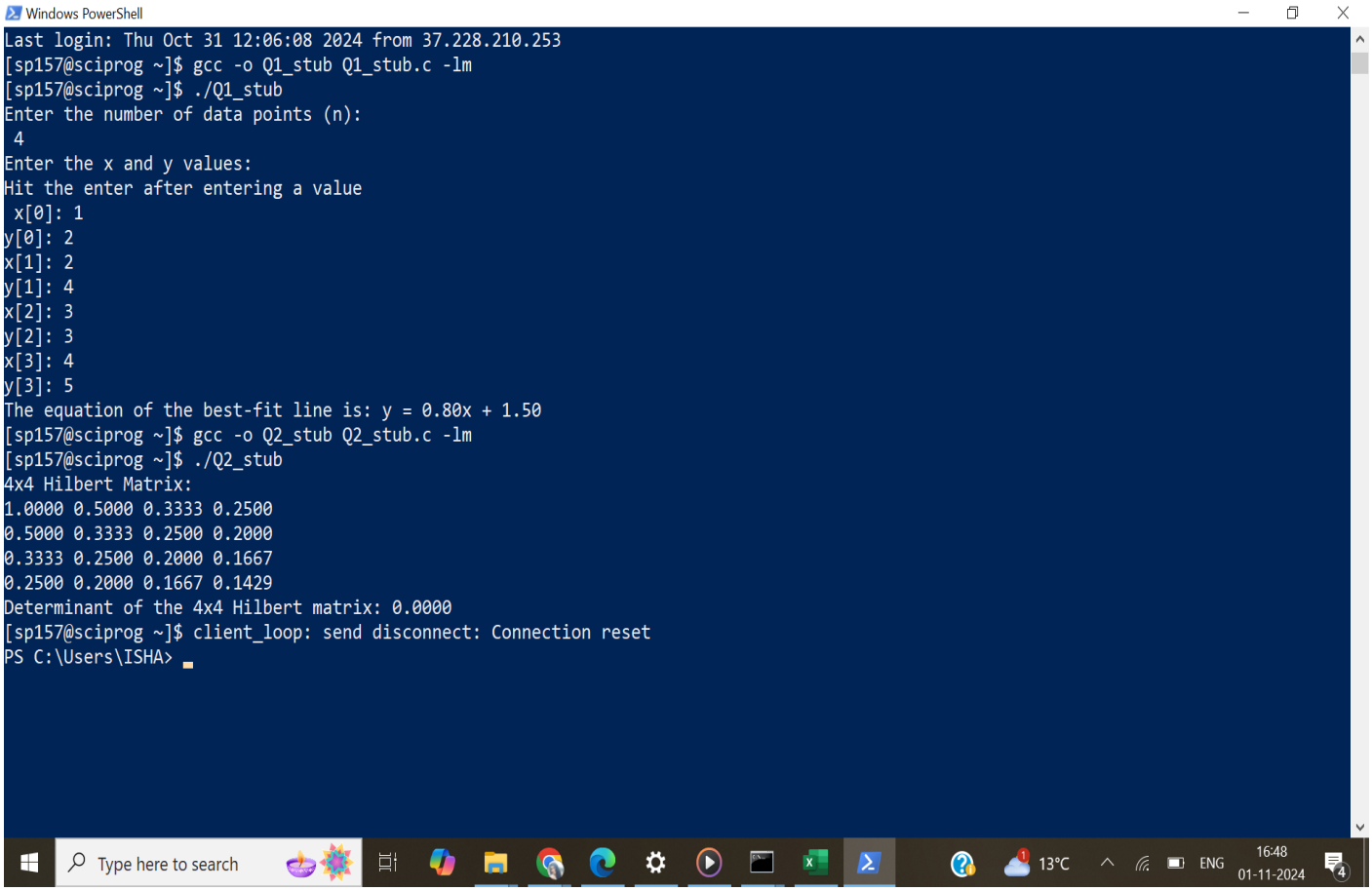
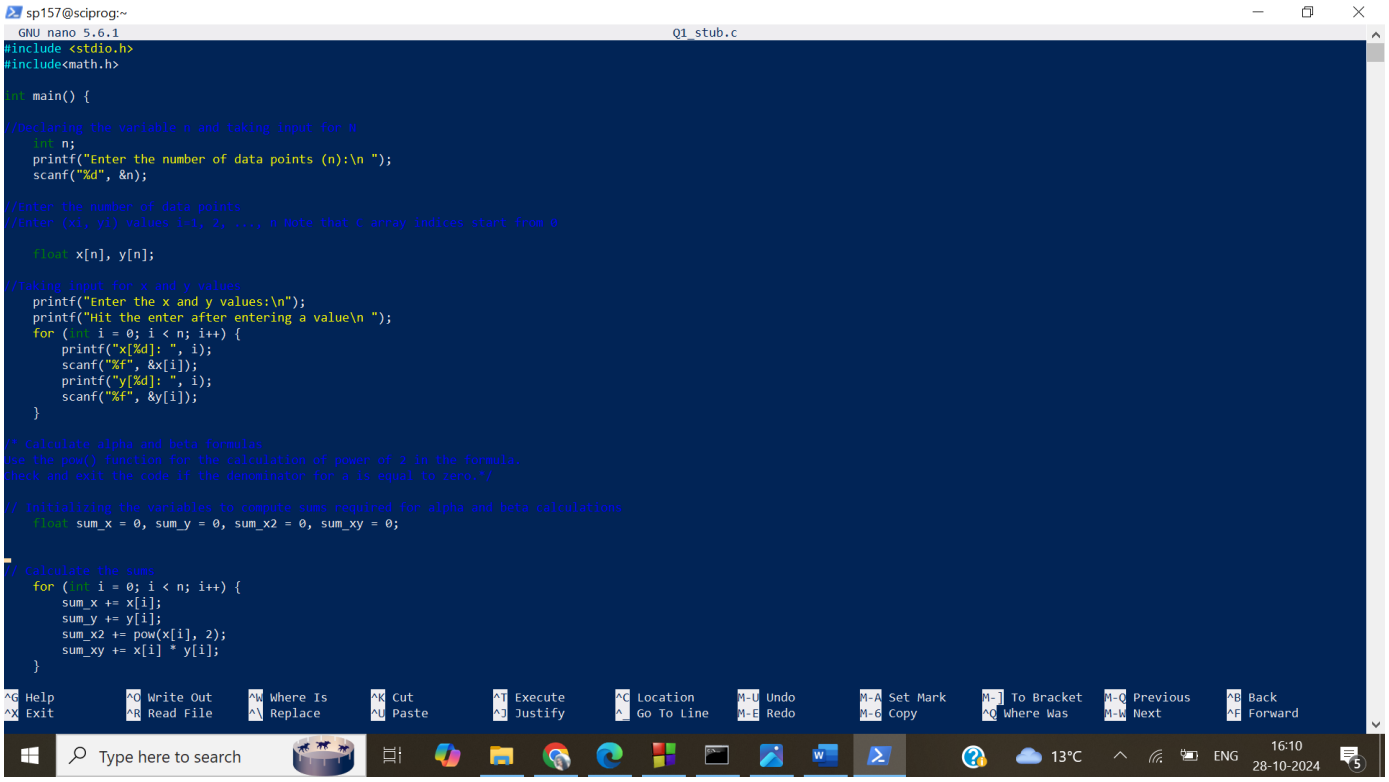
Here I coded, compiled and run both programs in C on Sciprog. I am attaching output of both programs, screenshot of code which is done on Sciprog as well as code of .c File.

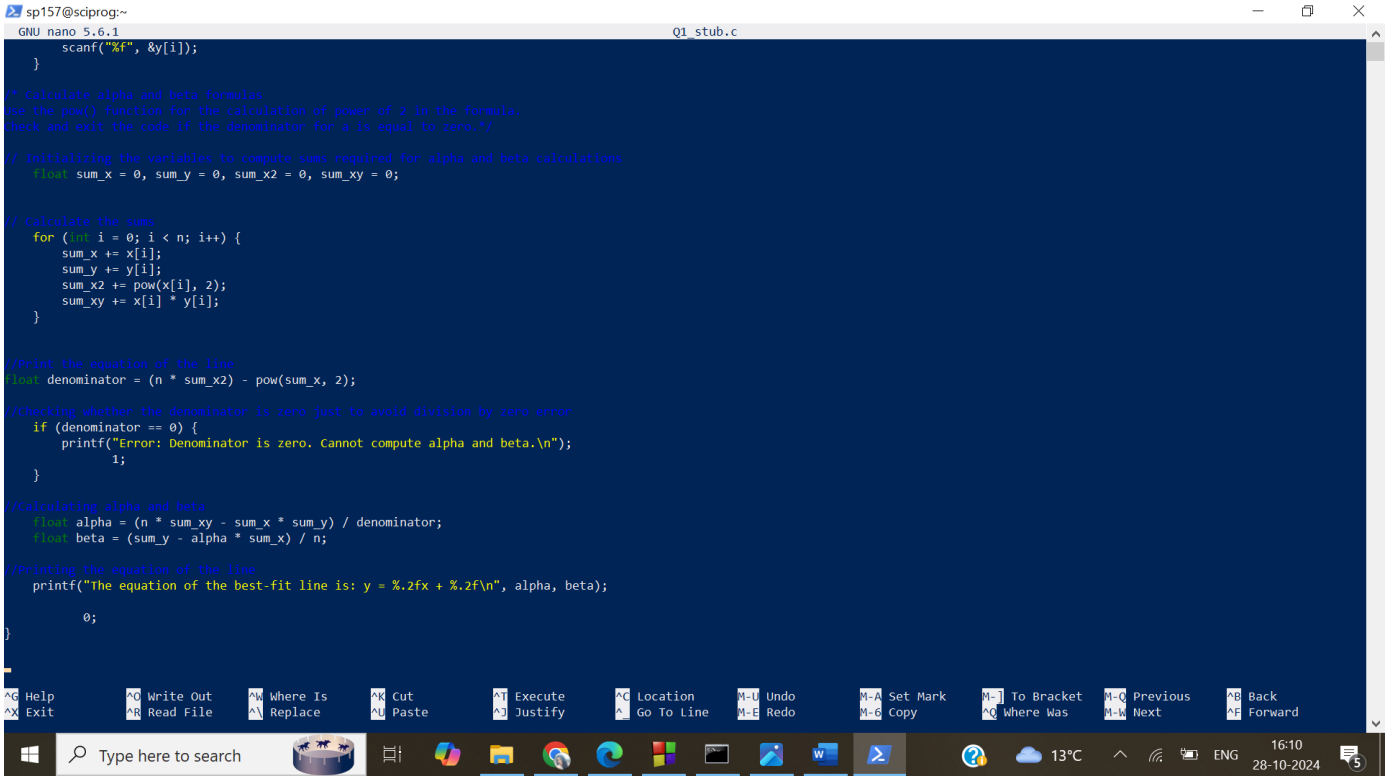
Output of Program Q1.stub and Q2.stub

The input for Q1.stub file is the data points which are in the Assignment1 file.

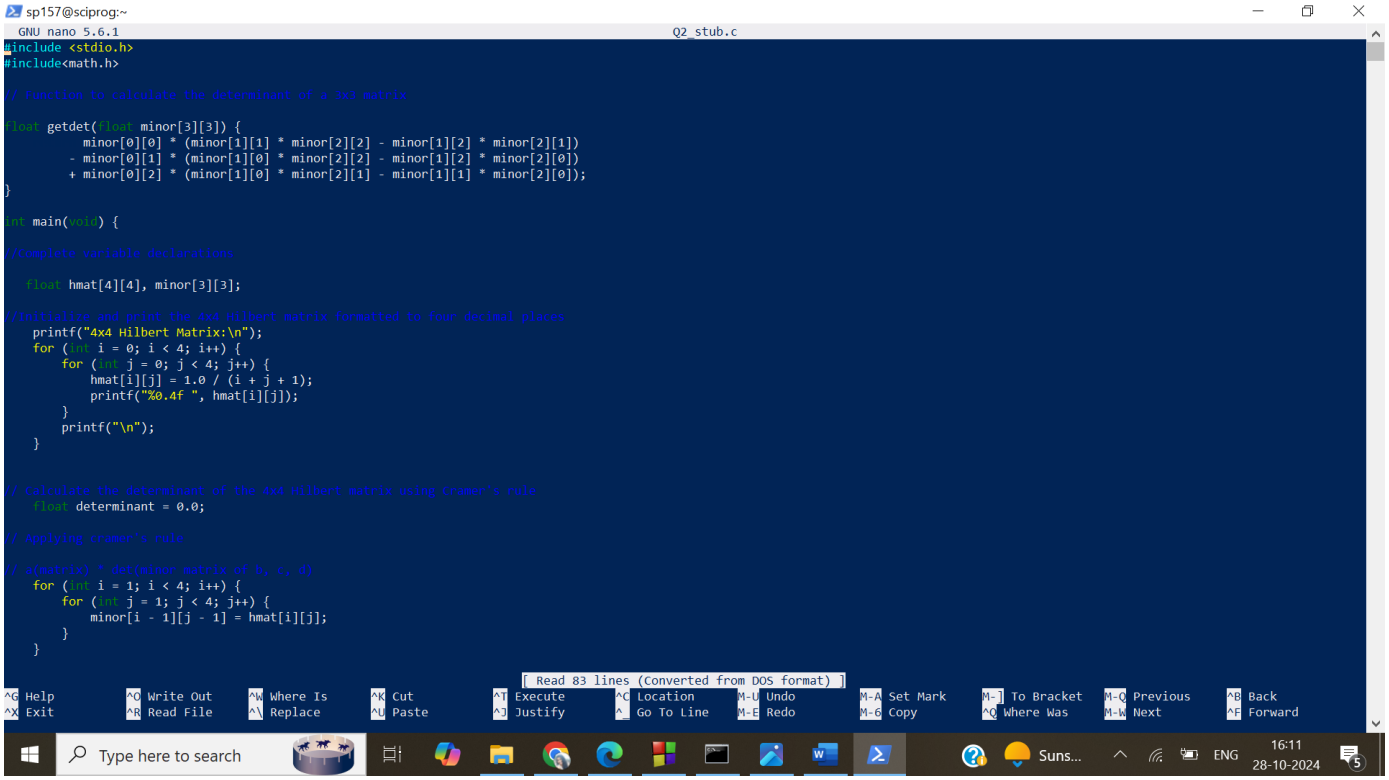


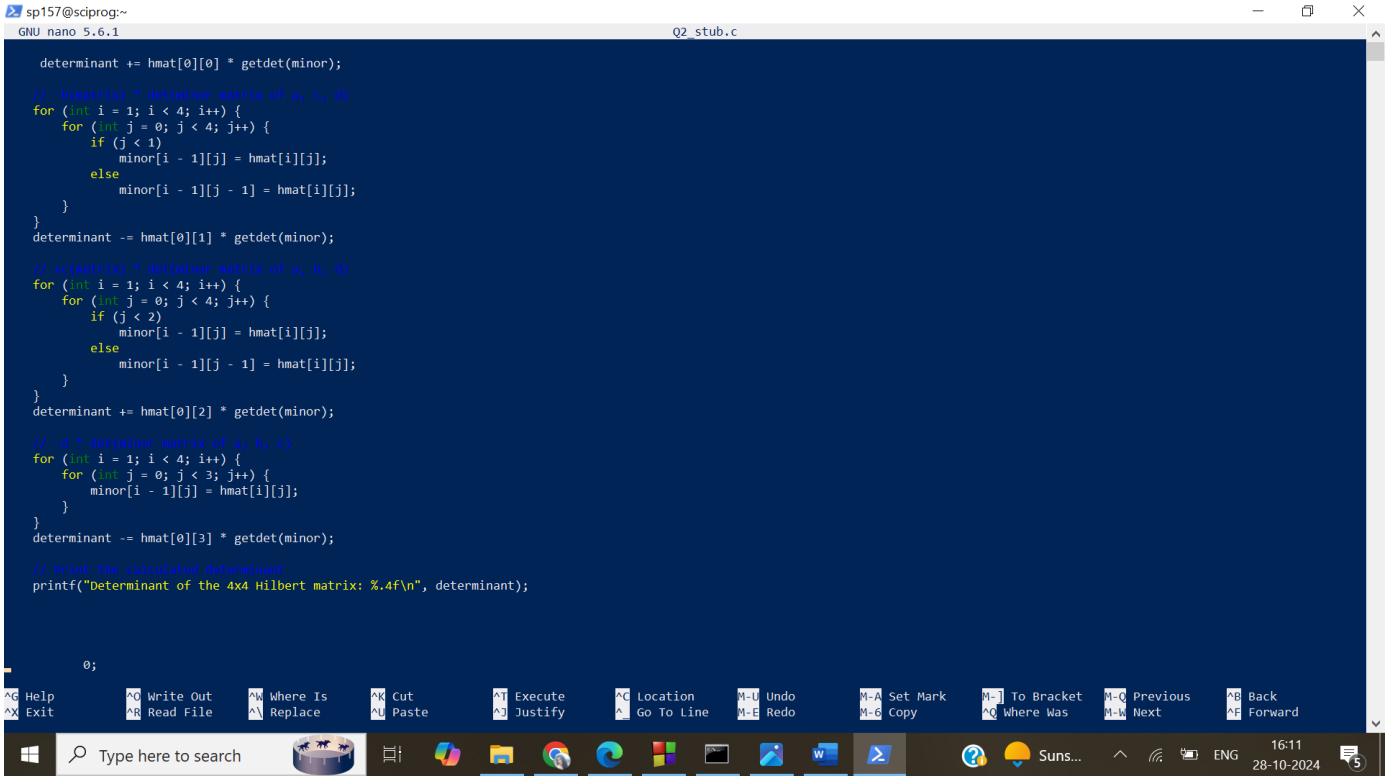
Q1.Stub.c File sciprog





Q1.Stub.c File on sciprog




sp157@sciprog:~
GNU nano 5.6.1
Q2_stub.c
determinant += hmat[0][0] * getdet(minor);
// -b(matrix) * det(minor matrix of a, c, d)
for (int i = 1; i < 4; i++) {
for (int j = 0; j < 4; j++) {
if (j < 1)
minor[i - 1][j] = hmat[i][j];
else
minor[i - 1][j - 1] = hmat[i][j];
}
}
determinant -= hmat[0][1] * getdet(minor);
// +c(matrix) * det(minor matrix of a, b, d)
for (int i = 1; i < 4; i++) {
for (int j = 0; j < 4; j++) {
if (j < 2)
minor[i - 1][j] = hmat[i][j];
else
minor[i - 1][j - 1] = hmat[i][j];
}
}
determinant += hmat[0][2] * getdet(minor);
// -d * det(minor matrix of a, b, c)
for (int i = 1; i < 4; i++) {
for (int j = 0; j < 3; j++) {
minor[i - 1][j] = hmat[i][j];
}
}
determinant -= hmat[0][3] * getdet(minor);
// Print the calculated determinant
printf("Determinant of the 4x4 Hilbert matrix: %.4f\n", determinant);
0;
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark M-] To Bracket M-Q Previous ^B Back
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^_ Go To Line M-E Redo M-6 Copy ^Q Where Was M-W Next ^F Forward
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