Worksheet 1: IEEE 754 conversion

Create a folder having your ID number and let this be your working directory. After you solve the problem, create a zipped (compressed) archive of your work and upload this to WeLearn.

1. Write a program which converts a float to its binary form following IEEE 754 prescription. The program should be able handle the cases of half precision (16 bit: 1.5.10), single precision (32 bit: 1.8.23), double precision (64 bit: 1.11.52). Let the float and the number of bits be two user inputs. Given a bit structure, the program should print the highest and the lowest subnormal numbers, and the highest and the lowest normal numbers (positive).

2. Given a binary form, write a program which converts it to its decimal representation following IEEE 754 convention.