

- 1-2. Write a C++ class which contains a measurement in two dimensional space  $(x, y)$ . Add member functions to return the value of the  $x$  and  $y$  coordinates, the error matrix ( $M = \begin{pmatrix} \sigma_x^2 & \sigma_{xy} \\ \sigma_{xy} & \sigma_y^2 \end{pmatrix}$ ,  $\sigma$ 's are the variances and the covariances), the distance  $r = \sqrt{x^2 + y^2}$ , its error and the significance  $S = \frac{r}{error}$ . Compile the code into a library. Write a test program to test that the library works.

Please make a tar-ball from your files and return it by email to:  
sami.lehti(at)helsinki.fi.