List of useful SageMath commands

Display commands

print(...) *print a value or list*
show(G) *plot graph G in 2d*
G.show3d() *plot graph G in 3d*
plot(K) *plot knot K*

Commands that create objects

graphs.CompleteGraph(n) *complete graph on n vertices*
graphs.CubeGraph(n) *n dimensional cube graph*
graphs.PetersenGraph() *the Petersen graph*
G.add_vertex('a') *add vertex a to graph G*
G.add_edges([['a','b'],['c','d'],...]) *add edges ab, cd to graph G*
G =graphs.RandomGNP(n, p) *random graph on n vertices, edges picked with probability p*
BraidGroup(n) *braid with index n*
Knot(B([...])) *knot from braid with given notation*
K1.connected_sum(K2) *the connected sum of knots K1 and K2*

Commands that analyse objects

M.eigenvalues() *eigenvalues of matrix M*
G.vertices() *vertices of graph G*
G.edges() *edges of graph G*
G.connected_components_number() *the number of components of G*
G.adjacency_matrix() *the adjacency matrix of G*
G.spanning_trees_count() *the number of spanning trees of G*
G.laplacian_matrix() *Laplacian matrix of graph G*
G.shortest_path('a','b') *the shortest path in G between a and b*
G.is_planar() *is the graph G planar?*
K.determinant() *determinant of knot K*
K.signature() *signature of knot K*
K.number_of_components() : *number of components of knot K*
K.oriented_gauss_code() : *find oriented Gauss code of knot K*
K.alexander_polynomial(), K.jones_polynomial(): *compute different knot polynomials of K*