**pcx Function()**

*LIne 108: get time that the algorithm started. Uses GetTime() from timers.c*

*Line 111-113: move dimentions to local storage.*

*Line 116- 121: don’t run if trivial case a trivial case. Uses Trivial\_No\_Rows() from PCx2*

*Line 128: set A to a MMT type matrix. Uses copyMMT() from wrappers.c*

*Line 129: allocate memory for double array. Uses NewDouble() and NewInt() from from memory.c*

*Line 131-132: fill b with values of constraints*

*Lines 143-145: get terminating requirements*

*Lines 147-148: set solution status*

*Lines 150-153: declare variable for x vector indices*

*Lines 155-161: clear memory for variable to store new iterator*

*Lines 163-172:Compute norms*

*Line 171-172: Flags for controlling loop and count iterations*

*Lines 180-266: Determine structure for L factor, Uses LookforDenseColumns() from dcolumns.c*

*Lines 272 -283:Shift and compute objective function information. Uses ShiftSplitVariables() from split.c and ComputeObjInf() from PCx2.c*

*Lines 289-297: Print progress report*

*Lines 301-305: Keep track of smallest Phi*

*Lines 312: keep track of best point and copy*

*Line 340: flush memory*

*Line 344: Store History*

*Lines 353-364: Check optimal termination*

*LInes 368-376: Declare infeasible if much bigger than phi*

*Lines 381-392: Declare unknow if ratio of infeasibilty is out of hand*

*Lines 400-410: If phi reduction progress is low declare unknown.*

*Lines 415-422: Declare sub optimal if reached max iterations*

*Line 429: get time to see how much elapsed*

*Line 433-443: Compute scaling matrix*

*Lines 447-458: Compute coefficient matrix*

*Lines 463-487: Compute numerical factorization*

*Lines 493-502: Compute predictor Step. Uses ComputePredictor() from solve.c*

*Line 508: Compute center parameter (sigma). Uses ComputeCentering() from solve.c*

*Lines 515-522: Compute Corrector Step. Uses ComputeCorrector() from solve.c*

*Lines 528-539: Add predictor and corrector. Uses ComputeCorrector() from solve.c*

*Lines 545-554: Compute Gondio Collections. Uses Compute Gondzio Corrections for solve.c*

*Line 560: Compute Step Factor. Uses ComputeStepFactor from PCx2.c*

*Lines 566-582: Take Step*

*Line 588: Loop*

*Line 590: GetTime()*

*Lines 598-619: Copy Best Iterations*

*Line 624: Transfer Results to solution*

*Lines 628-647: Compute objective function infesibilities*

*Line 652: Compute Dual variables*

*Lines 658-669: Clear memory.*

*Lines 679-714: Mehrotra's heuristic to compute the starting point*

*Line 741: Get begin time*

*743-752: Compute ADAT. uses computeADAT() from solve.c*

*754- 769: Factorize. Uses Factorize() form wssmp.c*

*LInes 771-772: get factoring time*

*Lines 774-782: Compute Pi*

*Lines 790-803: Compute s and r*

*Lines 807-816: Compute x*

*Lines 818-819: Get solve time*

*Lines 821-834: Sparse Matrix Calculations. Uses SparseSaxpyTM from wrappers.c*

*Lines 837-844: ?*

*Lines 848-852: Compute w*

*Lines 857-871: Compute delta primal and delta dual*

*Lines 875-900: Compute Delta (uppercase) primal and Delta dual*

*Lines 904-913: update x and s from delta values*

*Lines 917-920: Free memory from temporary variables*