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/************************************************
* HeeChan Kang
* CSC 431 - AI Robotics
* Assignment Zero - Arm Localization
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#include <stdio.h>
#include <stdlib.h>
#include <math.h>

void main() {
      double alpha, beta, x, y;
      double base = 1.0, l1 = 0.8, l2 = 0.8;

      /* Take user input for alpha and beta in radians. */
      printf("Enter angle alpha in radians: ");
      scanf("%lf", &alpha);
      printf("Enter angle beta in radians: ");
      scanf("%lf", &beta);

      /* Forward Kinematics equation derived in class */
      x = -l2*sin(alpha + beta) - l1*sin(alpha);
      y = l2*cos(alpha + beta) + l1*cos(alpha) + base;

      printf("Current x, y position is: (%6.4lf, %6.4lf).\n", x, y);
}
```

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heechan@heech-laptop:~/Documents/Git/airobotics/ArmLocalization$ ./armClass
Enter angle alpha in radians: 0
Enter angle beta  in radians: 0
Current x, y position is: ( -0.00,   2.60).
heechan@heech-laptop:~/Documents/Git/airobotics/ArmLocalization$ ./armClass
Enter angle alpha in radians: 1
Enter angle beta  in radians: 0
Current x, y position is: ( -1.35,   1.86).
heechan@heech-laptop:~/Documents/Git/airobotics/ArmLocalization$ ./armClass
Enter angle alpha in radians: 0
Enter angle beta  in radians: 1
Current x, y position is: ( -0.67,   2.23).
heechan@heech-laptop:~/Documents/Git/airobotics/ArmLocalization$ ./armClass
Enter angle alpha in radians: 1
Enter angle beta  in radians: 1
Current x, y position is: ( -1.40,   1.10).
heechan@heech-laptop:~/Documents/Git/airobotics/ArmLocalization$ ./armClass
Enter angle alpha in radians: -1
Enter angle beta  in radians: -1
Current x, y position is: (  1.40,   1.10).
heechan@heech-laptop:~/Documents/Git/airobotics/ArmLocalization$ ./armClass
Enter angle alpha in radians: -1
Enter angle beta  in radians: 0
Current x, y position is: (  1.35,   1.86).
heechan@heech-laptop:~/Documents/Git/airobotics/ArmLocalization$
```