====== Humanoid configuration ================================

Center of Mass: kept at 0.93 meters
Head: 33.0 cm above Center of Mass
IMU: 16.0 cm below Center of Mass

Lidar: 15.0 cm above HeadKinect: 7.0 cm above Head

```
for i in xrange(start frame, end frame, interval):
```

The function, "get_joint_index()", takes a string and returns a corresponding joint ID for the input joint name.

- x['pos']: joint positions (you don't need to use this information in this project)
- x['ft_l'], x['ft_r']: (you don't need to use this information in this project)
- x['ts']: timestamps (Absolute time)
- x['gyro']: gyro measurements
- x['acc']: accelerometer measurements
- x['rpy']: roll, pitch, yaw angles
- x['head_angles']: contains head and neck angles: array([[Neck angle], [Head angle]])

http://www.hokuyo-aut.jp/02sensor/07scanner/download/pdf/UTM-30LX_spec_en.pdf

- x['ts']: timestamps (Absolute time)
- x['pose']: absolute odometry [x, y, theta] (+x: forward, +y: left, +z: up, +theta: counterclockwise rotation around z)
- x['res']: 0.0044 scan resolution in radians
- x['rpy']: IMU roll, pitch, yaw angles
- x['scan']: 1x1081 lidar scan data, range -135° to 135°.

http://smeenk.com/kinect-field-of-view-comparison/

Camera data is provided only for training sets 0 and 3 and the test set.

- DEPTH_*.mat contains depth images in millimeters
- RGB_*.mat contains RGB image. It is split into several files due to size:
 - o RGB_3_1.mat has 1 to 300 frames
 - o RGB_3_2.mat has 301 to 600 frames
 - 0 ...
 - o RGB_3_4.mat has 901 to 996 frames

Intrinsic and Extrinsic camera parameters are provided by the functions "getIRCalib()", "getRGBCalib()", "getExtrinsics_IR_RGB()". See the comments inside for details.