HW Assignment 2(CS380)
(Aashish Waikar-20196055)

Each part of the assignment is explained in detail as follows:-

1)Background:-
-I have used similar background which I had implemented in HW1.
-It consists of hills in the background with Koch snowflakes falling from the sky.
-Used triangle, rectangle and fractal primitive.

2)Snowman:-
-I have used 3 types of primitives as subparts of the snowman, which are cylinder, cone and sphere.
-I was earlier trying to implement the icosahedron approximation of the sphere but later changed it to the one which uses latitudes and longitudes(which was much simpler).
-Cone primitive is used for the hat and nose of the snowman, cylinder for arms and legs, and sphere for head and body.
- Each part has been implemented in the order of hierarchy(considering relative positions and child-parent relations) for satisfying motion constraints.

3)Animations:-
-I have implemented keyboard and mouse interaction using the functions KeyboardCallback() and MouseButtonCallback().

a)Mouse Interaction:-
-On clicking the body of the snowman, it starts rotating about y axis to reveal the 3D structure. Clicking on body again stops the rotation.
-On clicking head of the snowman, the snowman nods. For stopping click on head again.

b)Keyboard interaction:-
-On pressing R, it starts rotating about y axis to reveal the 3D structure. Press again to stop the rotation.
-Pressing W simulates the walking motion of the snowman(translation motion not shown but motion of every body part is shown).

4)Creativity:-
-I have implemented a pretty background portraying hills in the evening sky(using gradient).
-The snowman has been given a creative look similar to the snowman which people actually build(nose using carrot, arms using sticks, etc).
-For the walking animation, I implemented motion of head, arms(swinging) and legs to simulate it as close as possible to the way people actually walk.