# GROUP 7 COMPUTER GRAPHICS ASSIGNMENT

## MEMBERS

CIT-227-043/2017

CIT-227-016/2016

CIT-227-029/2017

CIT-227-021/2017

CIT-227-031/2017

## PROJECT

The project was about drawing a robot using python canvas and making it to animate in a form that in which the robot can perform some actions and even move

We implemented this using python actually made the robot using an external graphics editor and animated the different robots.

The Robot appears to be dancing as the images are changed at an interval of a 1/20th of a second

Actually the robot in the process raises its arms and either of them or both to finish on them for the animation period.

We used a forever loop to implement it so that it can dance until the time that you close the application then it would certainly stop ofcourse with an error because of the interruption done to the forever loop.

Please run the robot2.py file so that the elaboration can be seen in practice actually, It appears as a video that is being played because of the animation but it is not.

## The Applications Code

*#importing the tkinter, random and time modules*

from tkinter import \*

import random

import time

*#creating the tkinter Object*

tk = Tk()

tk.title("Dancing Robot")

*#creating the canvas in which the graphics would be displayed*

can = Canvas(tk, width=500, height = 400, bd = 0, highlightthickness = 0)

*#Initialising the images*

rob1 = PhotoImage(file="Python\\rob1.gif")

rob2 = PhotoImage(file="Python\\rob2.gif")

rob3 = PhotoImage(file="Python\\rob3.gif")

rob4 = PhotoImage(file="Python\\rob4.gif")

rob5 = PhotoImage(file="Python\\rob5.gif")

rob6 = PhotoImage(file = "Python\\rob6.gif")

rob7 = PhotoImage(file = "Python\\rob7.gif")

rob8 = PhotoImage(file = "Python\\rob8.gif")

rob9 = PhotoImage(file = "Python\\rob9.gif")

rob10 = PhotoImage(file = "Python\\rob10.gif")

rob11 = PhotoImage(file = "Python\\rob11.gif")

rob12 = PhotoImage(file = "Python\\rob12.gif")

can.pack()

tk.update()

*#A method that listens to key events*

def animateTri(em):

if em.keysym == 'Up':

circle2 = can.create\_image(50, 50, anchor=NW, image=rob2)

can.pack()

can.move(circle2, 0, -3)

tk.update()

elif em.keysym == 'Down':

can.move(circle, 0, 3)

tk.update()

*#time.sleep(0.005)*

elif em.keysym == "Left":

can.move(circle, -3, 0)

tk.update()

*#time.sleep(0.005)*

elif em.keysym == "Return":

x = random.randrange(10)

y = 1

for i in range(x, y):

can.move(circle, x, y)

tk.update()

time.sleep(0.005)

else:

can.move(circle, 3, 0)

tk.update()

can.bind\_all('<KeyPress-Right>', animateTri)

can.bind\_all('<KeyPress-Left>', animateTri)

can.bind\_all('<KeyPress-Up>', animateTri)

can.bind\_all('<KeyPress-Down>', animateTri)

can.bind\_all('<KeyPress-Return>', animateTri)

*#This is The Engine of the animation where the images are shuffled by the program and then they animate*

while True:

*#Forgeting the packed canvas and then creating a new one so that it can behave as a frame*

can.pack\_forget()

can = Canvas(tk, width=500, height=400, bd=0, highlightthickness=0)

can.pack()

starts = [rob1, rob2, rob3, rob4, rob5, rob6, rob7, rob8, rob9, rob10, rob11, rob12]

random.shuffle(starts)

circle = can.create\_image(50, 50, anchor=NW, image=starts[0])

can.move(circle, -3, 0)

tk.update\_idletasks()

tk.update()

time.sleep(0.2)