ACM RECRUITMENT TASKS

TIC TAC TOE

Devika K Anil AM.EN.U4EAC24022 Program code: import random board =[' '] * 10 compt = 'X' humn = 'O' def disp(board): print('\n') print(f'{board[1]} | {board[2]} |{board[3]}') print('--|---|) print(f'{board[4]} | {board[5]} |{board[6]}') print('--|---|) print(f'{board[7]} | {board[8]} |{board[9]}') print('\n') def win(): combo=[(1, 2, 3), (4, 5, 6), (7, 8, 9), (1, 4, 7), (2, 5, 8), (3, 6, 9), (1, 5, 9), (7,5,3)for (a,b,c) in combo: if board[a]==board[b]==board[c] and board[a]!=' ':

```
def draw():
 return ' 'not in board[1:]
def avail(pos):
 return board[pos] == ' '
definsert(num, pos):
 if avail(pos):
   board[pos]=num
   if win():
      if num=='X':
       disp(board)
       print("Computer Wins!")
      else:
       disp(board)
       print("You win!")
     exit()
   if draw():
```

disp(board)

print("Its a draw!")

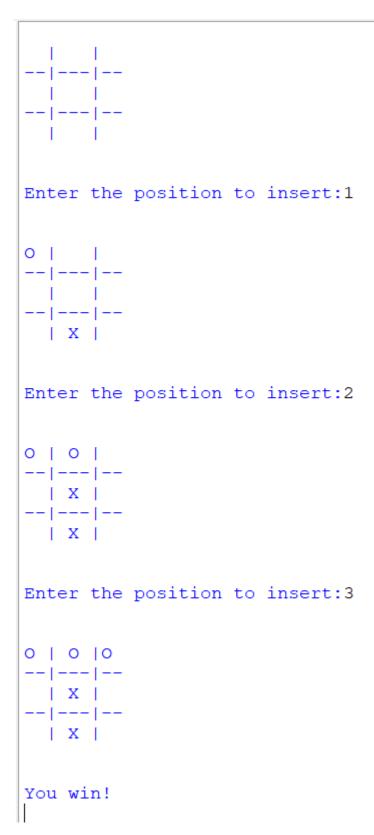
return True

return False

```
exit()
  else:
   print("Position already filled. Please try again")
   if num=='O':
      hum(num)
    else:
      comp(num)
def hum(num):
 while True:
   try:
      pos = int(input("Enter the position to insert:"))
      if pos<0 or pos>9:
       print("Invalid option.Please try again")
      elif not avail(pos):
       print("Position already filled.Please try again")
      else:
       insert(num,pos)
       break
   except ValueError:
      print("Enter position between 1 and 9:")
def comp(num):
  pos=random.randint(1, 9)
```

```
while not avail(pos):
   pos=random.randint(1,9)
 insert(num,pos)
# main loop
while True:
 disp(board)
 hum(humn)
 if win()or draw():
   break
 comp(compt)
 if win() or draw():
   break
 Program output:
```

1) User wins:



2) Computer wins:

Enter the position to insert:2

Enter the position to insert:9

Enter the position to insert:8

3) Draw:

= RESTART: D:\Amrita\acm\reg\tic tac toe\tic tac toe.py

Enter the position to insert:1

Enter the position to insert:9

Enter the position to insert:4

Enter the position to insert:3

Enter the position to insert:8

Its a draw!