Assignment-8

ELP - 718 Telecomm Software Laboratory

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A report presented for the assignment on
Python

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1 Problem Statement-1

1.1 Problem Statement

Parity Check The simplest way of error detection is to append a single bit, called a parity check, to a string of data bits. This parity check bit has the value **1** if the number of 1's in the bit string is even and has the value **0** otherwise, i.e., Odd Parity Check.

Bit-Oriented Framing Data Link Layer needs to pack bits into frames so that each frame is distinguishable from another. Frames can be fixed or variable size. In variable size framing, we define the end of the frame using a bit-oriented approach. It uses a special string of bits, called a flag for both idle fills and to indicate the beginning and the ending of frames.
The bit stuffing rule is to insert a **0** after each appearance of **010** in the original data.
The string **0101** is used as the bit string or flag to indicate the end of the frame.

1.2 Assumptions

- We are assuming that if number of **one's** is **even** then we add **'1'**.
- We are assuming that if number of **one's** is **odd** then we add **'0'**
- If we get **'010'** in the bit we have to append **'0'** after that **'010'** bit.

1.3 Algorithm and Implementation

1. Enter the parity bit and we save it as a string.
2. Then we declare variables and lists.
3. Then we use **for loop** for inserting bits one by one and then checking it if '1' or '0' using **if-else**.
4. Then be also add variable inside **if i=='1'** and then check it for even and odd by dividing it by 2 using **if-else command**.
5. Then we append '1' or '0' inside if-else as per condition.
6. Then we print the parity.
7. For 2nd part we just append one by one bit into list using for and **append(i)**.
8. Then we check the list one by one using 3 **if-else command** and inserting '1' using **.insert(..,..)** command and also saving values where we appending '1' in **list y**.
9. Then we put those **y values** and change the **'0'** value.
10. Then we append '0101' in the end
11. Then we print the Transmitting data.

1.4 Program Structure of PS1

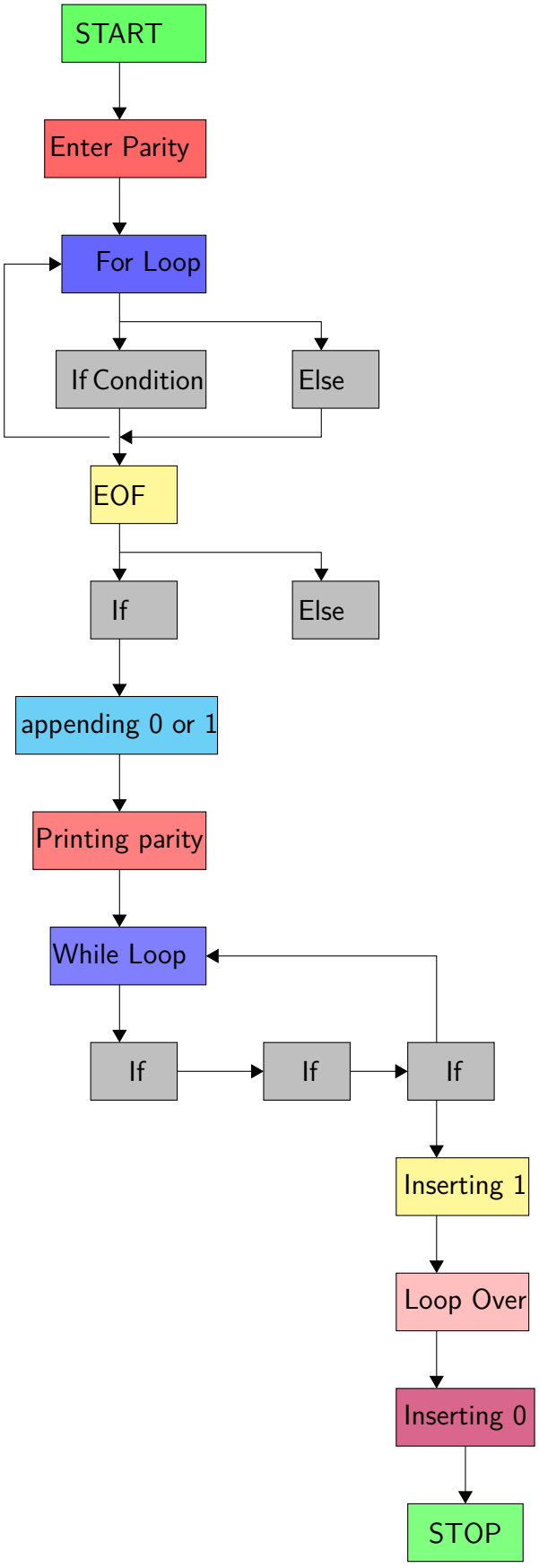


Figure 1: Flow Chart ps1

1.5 Difficulties Issued

- For checking even-odd number of 1's.
- For checking '010' in the parity bits.
- For appending into a string from list.

1.6 Input-Output Format

1.6.1 Input Format

Enter binary bit data that has to be transmitted.

1.6.2 Output Format

Print binary bit data with parity bit.
Print the modified string that is to be transmitted

1.6.3 Sample Input

010101110100101

1.6.4 Sample Output

Parity bit data :0101011101001011
Transmitting data:010**0**10111010**0**010**0**11**0101**

1.7 Screenshot of PS1

```
/home/manaskankane/2019JTM2166_Assignment-8/v/bin/python /home/manaskankane/2019JTM2166_Assi
Enter the parity bit data : 010101110100101

Parity bit data is 0101011101001011

Transmitting data : 010010111010001001101 01
```

Figure 2: Screenshot of PS1

2 Problem Statement-2

2.1 Problem Statement

3X3 Numeric Tic-Tac-Toe (Use numbers 1 to 9 instead of X's and O's) One player plays with the odd numbers (1, 3, 5, 7, 9) and the other player plays with the even numbers (2,4,6,8). All numbers can be used only once. The player who puts down 15 points in a line wins (sum of 3 numbers). Always Player with odd numbers starts the game. Once a line contains two numbers whose sum is 15 or greater, there is no way to complete that line, although filling in the remaining cells might be necessary to complete a different line.
Note – Line can be horizontal, vertical or diagonal

Constraints:

- 1¡=Position¡=9
- 1¡=Number¡=9

Terminal:

- Print 'Welcome to the Game!'.
- Print whether it is Player 1's or Player 2's chance.
- Get the position and number to be entered from the user.
- Show tic tac toe with data
- Continue till the game gets draw or some player wins and show the result.
- Ask the user whether to continue for the next game or exit.

2.2 Assumptions

- We have given a position not less than or equal 1 and not greater than equal to 9.
- We have also given the numbers should be between 1 to 9 with 1 and 9 included.

2.3 Algorithm and Implementation

1. We first declare the list and variable.
2. Then we use **while 1**.
3. Then we ask for choice, players name.
4. Then we slice the list and save it into a string and printing it.
5. Then we use while loop and ask for position and number of player1.

6. Then we insert it into a list and convert a list into a string.
7. Then we add the list numbers and check it for 15, if then player1 wins.
8. If all the rows and coloums sum is greater than 15 then match is draw.
9. Same for player2 and we have taken if-else for checking the position.
10. We have also added the constraint for position, match draw and for exit also.

2.4 Difficulties Issued

- For slicing the list into string.
- For taking while loops and closing it.
- Sending the data from list to string and printing it.
- Adding all the numbers we put and checking for 15 or greater than 15.

2.5 Input-Output Format

2.5.1 Input Format

Enter your choice:
Enter the position and number:

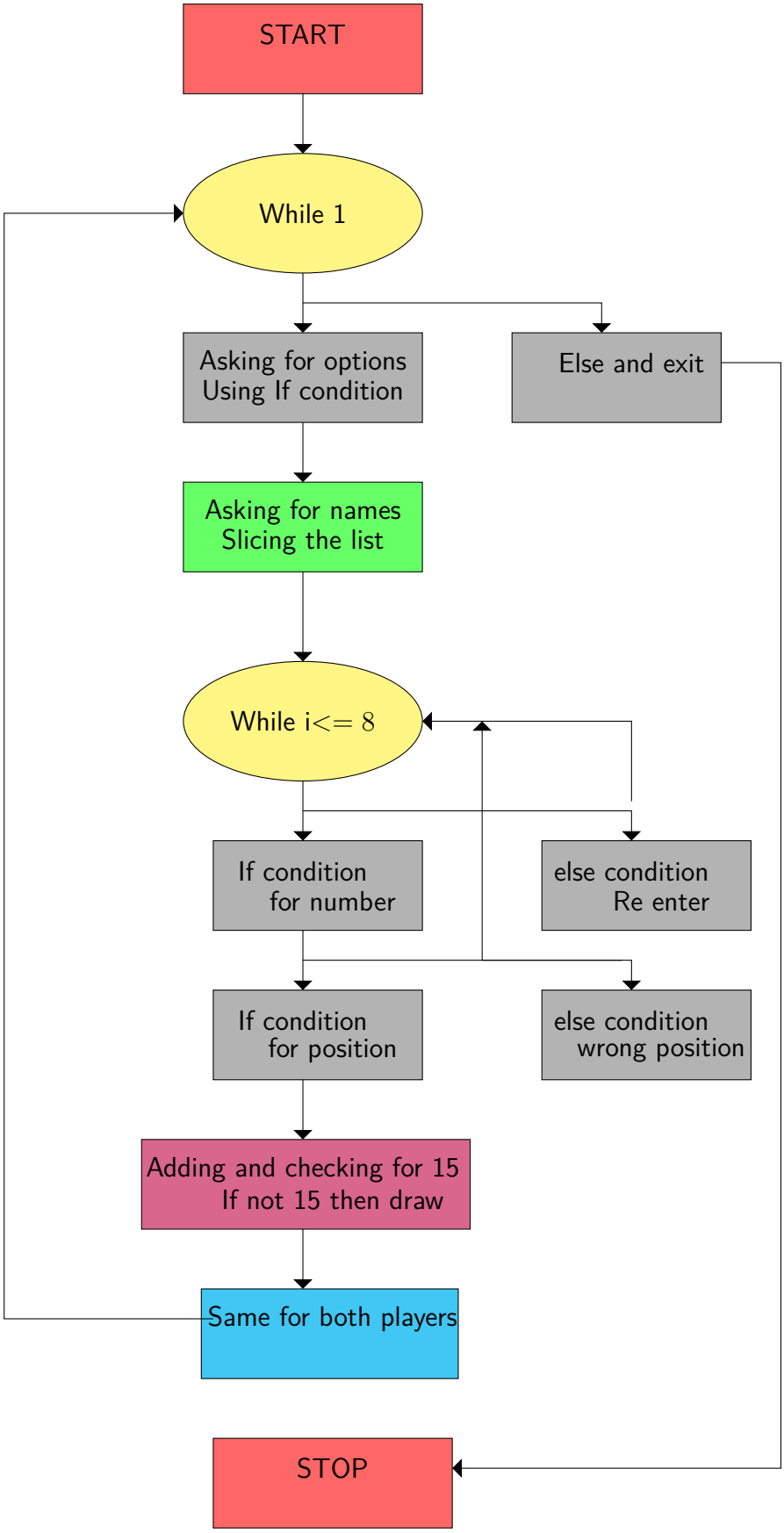
Like this upto 9 turns for both player1 and player2

2.5.2 Output Format

Enter your choice: 1
Enter the position and number: 5,3
000
030
000
Enter the position and number: 7,4
000
030
400

and soon upto 9 turns.

2.6 Program Structure



2.7 Screenshot of PS2

```
/home/manaskankane/2019JTM2166_Assignment-8/v/bin/python /home/manaskankane/2019JTM2166_Assignment-8/Assignment_8
--------------------------
Welcome to the Game
--------------------------

1. Play Tic-Tac-Toe Game
2. Exit

Enter your choice : 1

Enter player 1 name : manas

Enter player 2 name : anjay

What you want to become even player or odd player : odd

Player manas is odd player and Player anjay is even player

-------Game Started-------

000
000
000
Enter position player manas : 1
Enter number player manas : 5
500
000
000
Enter position player anjay : 2
Enter number player anjay : 5
550
000
000
Enter position player manas : 3
Enter number player manas : 5
555
000
000
Player manas Wins

1. Play Tic-Tac-Toe Game
2. Exit

Enter your choice : 2
--------------------------
Thank You for Playing Game
--------------------------
```

Figure 3: Screenshot of PS2

3 GIT Screenshots

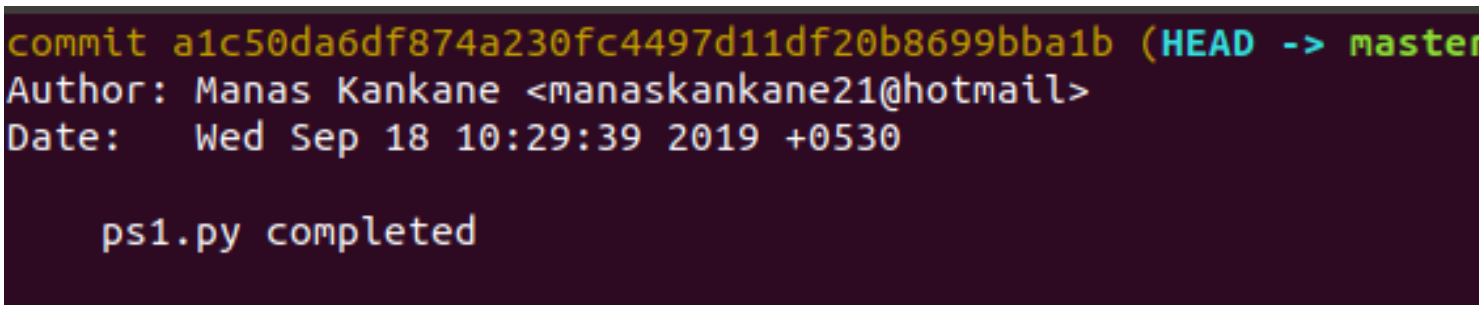


Figure 4: Screenshot of git1

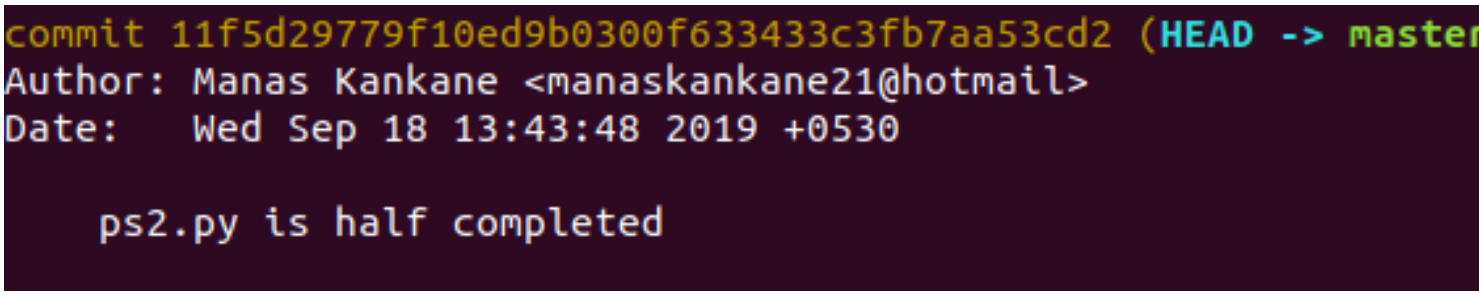


Figure 5: Screenshot of git2

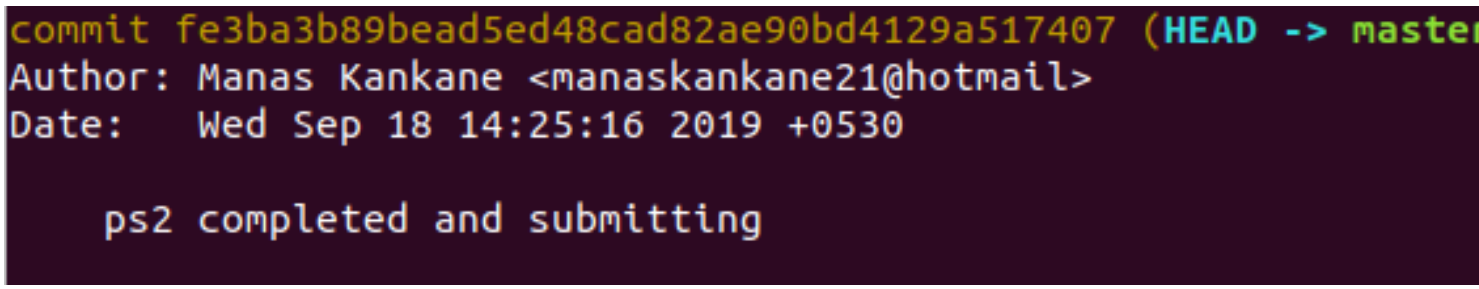


Figure 6: Screenshot of git3

4 Appendix

4.1 Appendix-ps1

```
a=input('Enter the parity bit data : ')
name=a.split()
b=0
c=0
x=[]
y=[]
for i in a:
if i=='1':
b=b+1
else:
c=0
if b%2==0:
for i in name:
name1=i + '1'
else:
for i in name:
name1 = i + '0'
print('\nParity bit data is {}'.format(name1))
for i in name1:
x.append(i)
#print(x)
while c < len(a):
if x[c]=='0':
if x[c+1]=='1':
if x[c+2]=='0':
x.insert(c+3,'1')
y.append(c+3)
c=c+1
x[y[0]]='0'
x[y[1]]='0'
x[y[2]+1]='0'
x.append('0101')
#print(x)
name2=''.join(x)
print('\nTransmitting data : {}'.format(name2))
```

4.2 Appendix-ps2

```
print('-----------------------------')
print('Welcome to the Game')
print('-----------------------------')
list1=['0','0','0','0','0','0','0','0','0']
list2=[0,0,0,0,0,0,0,0,0]
a1=0
a2=0
a3=0
a4=0
a5=0
a6=0
a7=0
a8=0
a9=0
x=0
while 1:
```

```
print('\n1. Play Tic-Tac-Toe Game\n2. Exit')
a=int(input('\nEnter your choice : '))
if a==1:
b=str(input('\nEnter player 1 name : '))
c=str(input('\nEnter player 2 name : '))
d=str(input('\nWhat you want to become even player or odd player : '))
print('\nPlayer {} is odd player and Player {} is even player'.format(b,c))
print('\n--------Game Started--------\n')
string=''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
while x<=8:
pos1=input('Enter position player {} : '.format(b))
num1=input('Enter number player {} : '.format(b))
if num1 >='1' and num1 <='9':
if pos1=='1':
list1[0]=num1
list2[0]=int(num1)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1=list2[0]
a2=list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1+a2+a3)==15 or (a4+a5+a6)==15 or (a7+a8+a9)==15 or (a1+a4+a7)==15 or (a2+a5+
    a8)==15 or (a3+a6+a9)==15 or (a1+a5+a9)==15 or (a3+a5+a7)==15:
print('Player {} Wins'.format(b))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n--------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos1=='2':
list1[1] = num1
list2[1] = int(num1)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
```

```
    ) == 15 or (a3 + a5 + a7) == 15:
print('Player {} Wins'.format(b))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (
a1 + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (
a1 + a5 + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos1=='3':
list1[2] = num1
list2[2] = int(num1)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
    ) == 15 or (a3 + a5 + a7) == 15:
print('Player {} Wins'.format(b))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (
a1 + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (
a1 + a5 + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos1=='4':
list1[3] = num1
list2[3] = int(num1)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
    ) == 15 or (a3 + a5 + a7) == 15:
print('Player {} Wins'.format(b))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (
a1 + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (
a1 + a5 + a9) >= 15 and (a3 + a5 + a7) >= 15:
```

```
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos1=='5':
list1[4] = num1
list2[4] = int(num1)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
    ) == 15 or (a3 + a5 + a7) == 15:
print('Player {} Wins'.format(b))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (
a1 + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (
a1 + a5 + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos1=='6':
list1[5] = num1
list2[5] = int(num1)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
    ) == 15 or (a3 + a5 + a7) == 15:
print('Player {} Wins'.format(b))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos1=='7':
list1[6] = num1
list2[6] = int(num1)
```

```
182 string = ''.join(list1)
183 print(string[0:3])
184 print(string[3:6])
185 print(string[6:9])
186 a1 = list2[0]
187 a2 = list2[1]
188 a3 = list2[2]
189 a4 = list2[3]
190 a5 = list2[4]
191 a6 = list2[5]
192 a7 = list2[6]
193 a8 = list2[7]
194 a9 = list2[8]
195 if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
    ) == 15 or (a3 + a5 + a7) == 15:
196 print('Player {} Wins'.format(b))
197 break
198 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
199 print('\n-------Game Draw--------\n')
200 print('\n-------Better Luck Next Time-------\n')
201 break
202 elif pos1=='8':
203 list1[7] = num1
204 list2[7] = int(num1)
205 string = ''.join(list1)
206 print(string[0:3])
207 print(string[3:6])
208 print(string[6:9])
209 a1 = list2[0]
210 a2 = list2[1]
211 a3 = list2[2]
212 a4 = list2[3]
213 a5 = list2[4]
214 a6 = list2[5]
215 a7 = list2[6]
216 a8 = list2[7]
217 a9 = list2[8]
218 if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
    ) == 15 or (a3 + a5 + a7) == 15:
219 print('Player {} Wins'.format(b))
220 break
221 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
222 print('\n-------Game Draw--------\n')
223 print('\n-------Better Luck Next Time-------\n')
224 break
225 elif pos1=='9':
226 list1[8] = num1
227 list2[8] = int(num1)
228 string = ''.join(list1)
229 print(string[0:3])
230 print(string[3:6])
231 print(string[6:9])
232 a1 = list2[0]
233 a2 = list2[1]
```

```
234 a3 = list2[2]
235 a4 = list2[3]
236 a5 = list2[4]
237 a6 = list2[5]
238 a7 = list2[6]
239 a8 = list2[7]
240 a9 = list2[8]
241 if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
        a4 + a7) == 15 or (a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9
        ) == 15 or (a3 + a5 + a7) == 15:
242 print('Player {} Wins'.format(b))
243 break
244 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
       + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
        + a9) >= 15 and (a3 + a5 + a7) >= 15:
245 print('\n-------Game Draw--------\n')
246 print('\n-------Better Luck Next Time-------\n')
247 break
248 else:
249 print('\n---------Game Error---------\n')
250 print('You entered wrong position')
251 print('\nEnter Again\n')
252 continue
253
254 pos2 = input('Enter position player {} : '.format(c))
255 num2 = input('Enter number player {} : '.format(c))
256 if num2 >= '1' and num2 <= '9':
257 if pos2 == '1':
258 list1[0] = num2
259 list2[0] = int(num2)
260 string = ''.join(list1)
261 print(string[0:3])
262 print(string[3:6])
263 print(string[6:9])
264 a1 = list2[0]
265 a2 = list2[1]
266 a3 = list2[2]
267 a4 = list2[3]
268 a5 = list2[4]
269 a6 = list2[5]
270 a7 = list2[6]
271 a8 = list2[7]
272 a9 = list2[8]
273 if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
        a4 + a7) == 15 or (
274 a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 +
        a7) == 15:
275 print('Player {} Wins'.format(c))
276 break
277 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
       + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
        + a9) >= 15 and (a3 + a5 + a7) >= 15:
278 print('\n-------Game Draw--------\n')
279 print('\n-------Better Luck Next Time-------\n')
280 break
281 elif pos2 == '2':
282 list1[1] = num2
283 list2[1] = int(num2)
284 string = ''.join(list1)
285 print(string[0:3])
```

```
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (
a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 +
    a7) == 15:
print('Player {} Wins'.format(c))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos2 == '3':
list1[1] = num2
list2[1] = int(num2)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (
a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 +
    a7) == 15:
print('Player {} Wins'.format(c))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos2 == '4':
list1[1] = num2
list2[1] = int(num2)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
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338 a3 = list2[2]
339 a4 = list2[3]
340 a5 = list2[4]
341 a6 = list2[5]
342 a7 = list2[6]
343 a8 = list2[7]
344 a9 = list2[8]
345 if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (
346 a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 +
    a7) == 15:
347 print('Player {} Wins'.format(c))
348 break
349 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
350 print('\n-------Game Draw--------\n')
351 print('\n-------Better Luck Next Time-------\n')
352 break
353 elif pos2 == '5':
354 list1[1] = num2
355 list2[1] = int(num2)
356 string = ''.join(list1)
357 print(string[0:3])
358 print(string[3:6])
359 print(string[6:9])
360 a1 = list2[0]
361 a2 = list2[1]
362 a3 = list2[2]
363 a4 = list2[3]
364 a5 = list2[4]
365 a6 = list2[5]
366 a7 = list2[6]
367 a8 = list2[7]
368 a9 = list2[8]
369 if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (
370 a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 +
    a7) == 15:
371 print('Player {} Wins'.format(c))
372 break
373 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
374 print('\n-------Game Draw--------\n')
375 print('\n-------Better Luck Next Time-------\n')
376 break
377 elif pos2 == '6':
378 list1[1] = num2
379 list2[1] = int(num2)
380 string = ''.join(list1)
381 print(string[0:3])
382 print(string[3:6])
383 print(string[6:9])
384 a1 = list2[0]
385 a2 = list2[1]
386 a3 = list2[2]
387 a4 = list2[3]
388 a5 = list2[4]
389 a6 = list2[5]
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a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 + a4 + a7) == 15 or (
a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 + a7) == 15:
print('Player {} Wins'.format(c))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1 + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5 + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos2 == '7':
list1[1] = num2
list2[1] = int(num2)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 + a4 + a7) == 15 or (
a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 + a7) == 15:
print('Player {} Wins'.format(c))
break
if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1 + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5 + a9) >= 15 and (a3 + a5 + a7) >= 15:
print('\n-------Game Draw--------\n')
print('\n-------Better Luck Next Time-------\n')
break
elif pos2 == '8':
list1[1] = num2
list2[1] = int(num2)
string = ''.join(list1)
print(string[0:3])
print(string[3:6])
print(string[6:9])
a1 = list2[0]
a2 = list2[1]
a3 = list2[2]
a4 = list2[3]
a5 = list2[4]
a6 = list2[5]
a7 = list2[6]
a8 = list2[7]
a9 = list2[8]
if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
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    a4 + a7) == 15 or (
442 a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 +
    a7) == 15:
443 print('Player {} Wins'.format(c))
444 break
445 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
446 print('\n-------Game Draw--------\n')
447 print('\n-------Better Luck Next Time-------\n')
448 break
449 elif pos2 == '9':
450 list1[1] = num2
451 list2[1] = int(num2)
452 string = ''.join(list1)
453 print(string[0:3])
454 print(string[3:6])
455 print(string[6:9])
456 a1 = list2[0]
457 a2 = list2[1]
458 a3 = list2[2]
459 a4 = list2[3]
460 a5 = list2[4]
461 a6 = list2[5]
462 a7 = list2[6]
463 a8 = list2[7]
464 a9 = list2[8]
465 if (a1 + a2 + a3) == 15 or (a4 + a5 + a6) == 15 or (a7 + a8 + a9) == 15 or (a1 +
    a4 + a7) == 15 or (
466 a2 + a5 + a8) == 15 or (a3 + a6 + a9) == 15 or (a1 + a5 + a9) == 15 or (a3 + a5 +
    a7) == 15:
467 print('Player {} Wins'.format(c))
468 break
469 if (a1 + a2 + a3) >= 15 and (a4 + a5 + a6) >= 15 and (a7 + a8 + a9) >= 15 and (a1
    + a4 + a7) >= 15 and (a2 + a5 + a8) >= 15 and (a3 + a6 + a9) >= 15 and (a1 + a5
     + a9) >= 15 and (a3 + a5 + a7) >= 15:
470 print('\n-------Game Draw--------\n')
471 print('\n-------Better Luck Next Time-------\n')
472 break
473 else:
474 print('\n---------Game Error---------\n')
475 print('You entered wrong position')
476 print('\nEnter Again\n')
477 continue
478
479 x=x+1
480 else:
481 print('-------------------------------')
482 print('Thank You for Playing Game')
483 print('-------------------------------')
484 exit()
```

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