Practice 19 – nested loop (Descriptive Problems)

Python code:

```
from random import *

def main():
   balls = 0   # variable to count 6 balls of an over
   while balls < 6:
       ball = randint(0, 9)
       if ball >= 0 and ball <= 6: print(ball, end = ' ');
       elif ball == 7:
           out = randint(0, 3)
           if out == 0:          print(end = 'B ');  # bold out
           elif out == 1:        print(end = 'C ');  # catch out
           elif out == 2:        print(end = 'S ');  # stump out
           else:                 print(end = 'R ');  # Run out
       elif ball == 8:           print(end = 'W ');  balls -= 1 # wide ball will not be
counted as a legal ball
       else:                     print(end = 'N ');  balls -= 1 # no ball will not be
counted as a legal ball
       balls += 1

main()
```

C Code:

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>

int main(){
    int ball, balls, out;
      srand(time(0));
    balls = 0;   // variable to count 6 balls of an over
      while (balls < 6){
      ball = rand() % 10;
      if (ball >= 0 && ball <= 6)            printf ("%d ",ball);
      else if (ball == 7){
            out = rand() % 4;
            if (out == 0)             printf ("B ");  // bold out
            else if (out == 1)        printf ("C ");  // catch out
            else if (out == 2)        printf ("S ");  // stump out
            else                      printf ("R ");  // Run out
       }
       else if (ball == 8) {          printf ("W ");  balls -= 1;} // wide ball will not
be counted as a legal ball
      else               {           printf ("N ");  balls -= 1;} // no ball will not be
counted as a legal ball
      balls += 1;
      }
    return 0;
}
```

The above code simulates (simulates means to show something virtually or artificially) an over in the cricket match with some assumptions/ limitations. For example, there will be only one run against a wide ball and there will be only one run against no ball. Similarly, there can be a maximum six runs possible on any ball and there will be zero runs in case of run out..

Task 01: Your task is to simulate an inning of the six over match with a six players team. There is a sample run for your understanding:

See sample run, for your understanding. 'W' shows a wide ball, 'R' shows a run out, 'B' shows bold out, 'N' shows no ball, 'C' shows catch out. There are six overs. A complete line shows detail of each over including total runs and wickets after each over.

```
Over 1: 5 2 W 0 6 R 5      Total: 19    Wickets: 1
Over 2: 1 2 2 3 3 6      Total: 36    Wickets: 1
Over 3: B N W 6 6 3 2 0      Total: 55    Wickets: 2
Over 4: 3 4 1 B 2 W C      Total: 66    Wickets: 4
Over 5: 0 0 0 C 2 5      Total: 73    Wickets: 5
Over 6: N 6 W 5 3 2 W 6 0      Total: 98    Wickets: 5
```

Task 02: For this task, Your task is to simulate a complete super six match. Count wickets, innings will end, if five wickets fall. Similarly, in the second inning, the match will finish, if the second team makes more runs than the first team or five wickets fall; whichever is earlier. At the end, print the result of the match.