```c
1   #include <stdio.h>
2   #include <stdlib.h>
3   #include<time.h>
4
5
6   int opening();
7   int roll_a_dice();
8   int calculate_score(int,int);
9   int play_user(int);
10  int play_computer(int);
11  void scoresheet(int,int);
12  char computer_strategy_decider(int,int);
13
14  int main()
15  {
16      srand(time(NULL));
17      int whoStarts=opening();//based on the result of the opening, either user or computer will start the
    game
18      int roundCounter=1;//counter of game rounds.
19      int userRoundScore,computerRoundScore,overallUserScore=0,overallComputerScore=0;//starting scores of
    players
20
21      while(roundCounter<=6){
22          if(whoStarts==1){//this means user will start the game
23              userRoundScore=play_user(roundCounter);
24              computerRoundScore=play_computer(roundCounter);
25          }
26          else{//this means computer will start the game
27              computerRoundScore=play_computer(roundCounter);
28              userRoundScore=play_user(roundCounter);
29          }
30          overallUserScore+=userRoundScore;//adding every roundScores to overall scores
31          overallComputerScore+=computerRoundScore;
32          scoresheet(overallComputerScore,overallUserScore);//then display these scores in this function
33          roundCounter++;
34      }
35
36      if(overallComputerScore>overallUserScore)
37          printf("I AM THE WINNER!\n");
38      else if(overallUserScore>overallComputerScore)
39          printf("YOU ARE THE WINNER!\n");
40      else
41          printf("DRAW!\n");
42
43
44  return 0;
45
46  }
47
48  int roll_a_dice(){
49      return 1+(rand()%6);
50  }
51  int opening(){
52      char rollChoice;
53      int computerDice,userDice;
54      printf("Welcome to the Big Pig game.\n");
55      printf("Lets get started!\n\n");
56      do{
57          fflush(stdin);
58          computerDice=roll_a_dice();
59          printf("I have rolled the dice and got %d!\n",computerDice);
60          printf("Shall I roll the dice for you(Y/N)? ");
61          scanf("%c",&rollChoice);
62          while(rollChoice!='Y' && rollChoice!='N'){
63              fflush(stdin);
64              printf("Please enter 'Y' or 'N' : ");
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65                   scanf("%c",&rollChoice);
66              }
67
68          }while(rollChoice!='Y');
69
70          userDice=roll_a_dice();
71          printf("I have rolled the dice for you and got %d!\n\n",userDice);
72          if(userDice>computerDice)//in equality, computer starts
73              return 1;//indicates that user will start the round
74          else
75              return 0;//indicates that computer will start the round
76
77  }
78  int calculate_score(int dice1, int dice2){
79      if(dice1!=dice2){
80          if(dice1==1 || dice2==1)
81              return 0;
82          else
83              return dice1+dice2;
84      }
85      else{
86          if(dice1==1)
87              return 25;
88          else
89              return 2*(dice1+dice2);
90      }
91  }
92  int play_user(int roundCounter){
93      printf("Round %d -- Your Turn:\n",roundCounter);
94      printf("--------------------------------------------------------------------------\n");
95      char choice;//user enters 'Y'
96      int dice1,dice2,singleScore,roundScore=0;
97      int endTurnFlag=0;
98
99      do{
100          fflush(stdin);
101          dice1=roll_a_dice();
102          dice2=roll_a_dice();
103          printf("You got -> [Dice1]:%d [Dice2]:%d\n",dice1,dice2);
104          singleScore=calculate_score(dice1,dice2);
105          printf("Score:%d\n",singleScore);
106          roundScore+=singleScore;
107          if(dice1==dice2){
108              printf("Doubles! Roll again!\n");
109              continue;
110          }
111          else{
112              if(dice1==1||dice2==1){
113                  printf("You got a single one! End of your turn!\n");
114                  endTurnFlag=1;
115              }
116              else{
117                  fflush(stdin);
118                  printf("Do you want to continue (Y/N)? ");
119                  scanf("%c",&choice);
120                  while(choice!='Y' && choice!='N'){
121                      fflush(stdin);
122                      printf("Please enter 'Y' or 'N' : ");
123                      scanf("%c",&choice);
124                  }
125                  if(choice=='Y')
126                      continue;
127                  else{
128                      endTurnFlag=1;
129                      break;
130                  }
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131                    }
132                }
133        }while(!endTurnFlag);
134
135        printf("Your round score:%d\n\n",roundScore);
136        return roundScore;
137 }
138 int play_computer(int roundCounter){
139        printf("Round %d -- My Turn:\n",roundCounter);
140        printf("----------------------------------------------------------------------\n");
141        int dice1,dice2,singleScore,roundScore=0;
142        int endTurnFlag=0;
143
144        do{
145
146            fflush(stdin);
147            dice1=roll_a_dice();
148            dice2=roll_a_dice();
149            printf("I got -> [Dice1]:%d [Dice2]:%d\n",dice1,dice2);
150            singleScore=calculate_score(dice1,dice2);
151            printf("Score:%d\n",singleScore);
152            roundScore+=singleScore;
153            int strategy=computer_strategy_decider(dice1,dice2);
154            if(strategy=='D'){
155                printf("Doubles! Roll again!\n");
156                continue;
157            }
158            else{
159                if(strategy=='E'){
160                    printf("I got a single one! End of my turn!\n");
161                    endTurnFlag=1;
162                }
163                else{
164                    if(strategy=='C')
165                        continue;
166                    else{
167                        endTurnFlag=1;
168                        break;
169                    }
170                }
171            }
172        }while(!endTurnFlag);
173
174        printf("My round score:%d\n\n",roundScore);
175        return roundScore;
176 }
177 char computer_strategy_decider(int dice1,int dice2){
178
179 //D stands for "doubles"
180 //E stands for " 'end' of the turn"
181 //C stands for " 'continue' rolling the dice"
182 //S stands for " 'stop' rolling the dice"
183
184
185        if(dice1==dice2){
186            return 'D';
187        }
188        else{
189            if(dice1==1||dice2==1){
190                return 'E';
191
192            }
193            else{
194                int randomChoice=rand()%2;
195                printf("Do you want to continue (Y/N)? ");
196
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197                    if(randomChoice==1){
198                        printf("Y\n");
199                        return 'C';
200                    }
201
202                    else{
203                        printf("N\n");
204                        return 'S';
205                    }
206                }
207            }
208  }
209  void scoresheet(int computerScore,int userScore){
210      printf("Our scoresheet:\n");
211      printf("============================================\n");
212      printf("My Score\tYour Score\n");
213      printf("%d\t\t%d\n\n",computerScore,userScore);
214  }
215
216
217
218
```