**代码/标程**

**铺地毯**

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| program carpet;  //uses sysutils;  const      proname='carpet';  type      juxing=record          x1,y1,x2,y2:longint;      end;  var      fin,fout:text;      i,j,k,l,r,m,n,x,y,s,t,ans:longint;      a:array[0..11000]of juxing;      t1,t2,t3,t4:longint;    procedure pin;  var      i,j,k:longint;  begin      readln(fin,n);      fillchar(a,sizeof(a),0);      for i:=1 to n do          begin              readln(fin,t1,t2,t3,t4);              a[i].x1:=t1;              a[i].y1:=t2;              a[i].x2:=t1+t3;              a[i].y2:=t2+t4;          end;      readln(fin,x,y);  end;      function ok(i:longint):boolean;  begin      if (a[i].x1<=x)and(x<=a[i].x2) then          if (a[i].y1<=y)and(y<=a[i].y2) then              exit(true);      exit(false);  end;      procedure main;  var      i,j,k:longint;  begin      ans:=-1;      for i:=1 to n do          if ok(i) then              ans:=i;  end;      procedure pout;  var      i,j,k:longint;  begin      writeln(fout,ans);  end;      begin      assign(fin,proname+'.in');      assign(fout,proname+'.out');      reset(fin);      rewrite(fout);      //time:=now;      pin;      main;      pout;      //writeln(fout,(now-time)\*24\*3600\*1000:0:0);      close(fin);      close(fout);  end. |

**选择客栈**

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| //O(nk)  program hotel;  //uses sysutils;  const      proname='hotel';  type      kezhan=record          color,cost:longint;      end;  var      fin,fout:text;      i,j,k,l,r,m,n,x,y,s,t:longint;      a:array[-10..200100]of kezhan;      sum:array[-10..200100,-10..60]of longint;      colorsum,mincost:longint;      cafe:array[-10..200100]of longint;      v:array[-10..200100]of boolean;      ans:int64;    procedure pin;  var      i,j,k:longint;  begin      readln(fin,n,colorsum,mincost);      fillchar(a,sizeof(a),0);      for i:=1 to n do          readln(fin,a[i].color,a[i].cost);  end;      function find(x:longint):longint;  var      i,j,k,mid:longint;  begin      l:=1;      r:=s;      find:=-1;      repeat          mid:=(l+r) shr 1;          if x<=cafe[mid] then              begin                  r:=mid-1;                  find:=cafe[mid];              end          else              l:=mid+1;      until l>r;  end;      procedure main;  var      i,j,k:longint;  begin      for i:=0 to colorsum-1 do          sum[0,i]:=0;      for i:=1 to n do          begin              sum[i]:=sum[i-1];              sum[i,a[i].color]:=sum[i-1,a[i].color]+1;          end;      s:=0;      fillchar(cafe,sizeof(cafe),0);      fillchar(v,sizeof(v),false);      for i:=1 to n do          if a[i].cost<=mincost then              begin                  inc(s);                  cafe[s]:=i;                  v[i]:=true;              end;      ans:=0;      for i:=1 to n-1 do //mei ju di yi ge ren          begin              if v[i] then                  begin                      ans:=ans+(sum[n,a[i].color]-sum[i,a[i].color]);                  end              else                  begin                      j:=find(i);                      if j=-1 then exit;                      ans:=ans+(sum[n,a[i].color]-sum[j-1,a[i].color]);                  end;          end;  end;      procedure pout;  var      i,j,k:longint;  begin      writeln(fout,ans);  end;      begin      assign(fin,proname+'.in');      assign(fout,proname+'.out');      reset(fin);      rewrite(fout);      //time:=now;      pin;      main;      pout;      //writeln(fout,(now-time)\*24\*3600\*1000:0:0);      close(fin);      close(fout);  end. |

**mayan 游戏**

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| --- |
| program mayan;  //uses sysutils;  const      proname='mayan';  type      game=record          data:array[0..8,0..6]of longint;      end;  var      fin,fout:text;      i,j,k,l,r,m,n,x,y,s,t,ans:longint;      first:game;      b:array[0..10]of game;      caozuo:array[0..10,0..3]of longint;      tt:array[0..8,0..6]of longint;      cut:array[0..11]of longint;    procedure pin;  var      i,j,k:longint;  begin      readln(fin,n);      fillchar(first,sizeof(first),0);      for j:=1 to 5 do          begin              i:=8;              repeat                  read(fin,k);                  if k=0 then break;                  dec(i);                  first.data[i,j]:=k;              until false;              readln(fin);          end;  end;      procedure swap(x,x1,y1,x2,y2:longint);  var      t:longint;  begin      t:=b[x].data[x1,y1];      b[x].data[x1,y1]:=b[x].data[x2,y2];      b[x].data[x2,y2]:=t;  end;      function ok(x:longint):boolean;  var      i,j,k:longint;  begin      ok:=true;      for i:=1 to 5 do          if b[x].data[7,i]<>0 then              exit(false);  end;      procedure down(x,lie:longint);  var      i,j,k:longint;  begin      for i:=6 downto 1 do          if (b[x].data[i,lie]<>0)and(b[x].data[i+1,lie]=0) then              begin                  for k:=7 downto 1 do                      if b[x].data[k,lie]=0 then                          break;                  swap(x,i,lie,k,lie);              end;  end;        function clear(x:longint):boolean;  var      i,j,k:longint;      l,r:longint;      step:longint;  begin      fillchar(tt,sizeof(tt),0);      l:=0;      r:=0;      step:=x;      clear:=false;      for i:=1 to 7 do          begin          for j:=1 to 5 do              if b[x].data[i,j]<>b[x].data[i,j-1] then                  begin                      r:=j-1;                      if (l<>0)and(r-l+1>=3)and(b[x].data[i,l]<>0) then                          begin                              for k:=l to r do                                  tt[i,k]:=1;                              clear:=true;                          end;                      l:=j;                  end;          if (5-l+1>=3)and(b[x].data[i,5]<>0) then              begin                  for k:=l to 5 do                      tt[i,k]:=1;                  clear:=true;              end;          end;      l:=0;      r:=0;      for i:=1 to 5 do          begin          for j:=1 to 7 do              if b[x].data[j,i]<>b[x].data[j-1,i] then                  begin                      r:=j-1;                      if (l<>0)and(r-l+1>=3)and(b[x].data[l,i]<>0) then                          begin                              for k:=l to r do                                  tt[k,i]:=1;                              clear:=true;                          end;                      l:=j;                  end;          if (7-l+1>=3)and(b[x].data[l,i]<>0)and(b[x].data[7,i]<>0) then              begin                  for k:=l to 7 do                      tt[k,i]:=1;                  clear:=true;              end;          end;      for i:=1 to 7 do          for j:=1 to 5 do              if tt[i,j]=1 then                  b[x].data[i,j]:=0;  end;        procedure dfs(step:longint);  var      i,j,k:longint;  begin      if step=n+1 then          begin              if ok(n+1) then                  begin                      for i:=1 to n do                          writeln(fout,caozuo[i,1],' ',caozuo[i,2],' ',caozuo[i,3],' ');                      close(fin);                      close(fout);                      halt;                  end;              exit;          end;      //剪枝2      fillchar(cut,sizeof(cut),0);      for i:=1 to 5 do          for j:=1 to 7 do              inc(cut[b[step].data[j,i]]);      for i:=1 to 10 do          if (cut[i]=1)or(cut[i]=2) then             exit;      b[step+1]:=b[step];      for i:=1 to 4 do          for j:=7 downto 1 do          //剪枝1 这里有一个问题，即第一层为01101且操作数为1时，必须要向右移      //因此这个剪枝需要稍加修改，这段程序不能AC！！！              if (b[step+1].data[j,i]<>b[step+1].data[j,i+1]) then                  begin                      swap(step+1,j,i,j,i+1);                      down(step+1,i+1);                      down(step+1,i);                      while clear(step+1) do                          for k:=1 to 5 do                              down(step+1,k);                      caozuo[step,1]:=i-1;                      caozuo[step,2]:=7-j;                      caozuo[step,3]:=1;                      dfs(step+1);                      b[step+1]:=b[step];                  end;  end;      procedure main;  var      i,j,k:longint;  begin      fillchar(b,sizeof(b),0);      fillchar(caozuo,sizeof(caozuo),0);      b[1]:=first;      dfs(1);  end;      procedure pout;  var      i,j,k:longint;  begin      writeln(fout,-1);  end;      begin      assign(fin,proname+'.in');      assign(fout,proname+'.out');      reset(fin);      rewrite(fout);      //time:=now;      pin;      main;      pout;      //writeln(fout,(now-time)\*24\*3600\*1000:0:0);      close(fin);      close(fout);  end. |