Name: Patel Manan Maheshkumar
Roll No: CE-111
PPS-II(Lab-5)

1) Resizable and Moving Rectangle

```
#include <iostream>
using namespace std;
class Point
{
  int x,y;
  void initialize(int x, int y)
  {
    this->x=x;
    this->y=y;
  }
  friend class Rectangle;
};
class Rectangle
{
  Point p[4];
public:
  void setPoint()
  {
    int x,y;
    for(int i=0;i<4;i++)
    {
      cin >> x >> y;
      p[i].initialize(x,y);
    }
  }
  void moveLeft(int m)
  {
    for(int i=0;i<4;i++)
      p[i].x-=m;
  }
  void moveRight(int m)
  {
    for(int i=0;i<4;i++)
      p[i].x+=m;
  }
  void moveUp(int m)
  {
    for(int i=0;i<4;i++)
      p[i].y+=m;
  }
```

```
void moveDown(int m)
{
   for(int i=0;i<4;i++)
      p[i].y-=m;
}
void increase(char temp2, int z)
{

   if(temp2=='L')
   {
      p[0].x-=z;
      p[2].x-=z;
   }
   if(temp2=='R')
   {
      p[1].x+=z;
      p[3].x+=z;
   }
   if(temp2=='T')
   {
      p[0].y+=z;
      p[1].y+=z;
   }
   if(temp2=='B')
   {
      p[2].y-=z;
      p[3].y-=z;
   }
}
void decrease(char temp2, int z)
{

   if(temp2=='L')
   {
      p[0].x+=z;
      p[2].x+=z;
   }
   if(temp2=='R')
   {
      p[1].x-=z;
      p[3].x-=z;
   }
   if(temp2=='T')
   {
      p[0].y-=z;
      p[1].y-=z;
   }
```

```
        if(temp2=='B')
        {
            p[2].y+=z;
            p[3].y+=z;
        }
    }
    void print()
    {
        for(int i=0;i<4;i++)
        {
            cout << p[i].x << " " << p[i].y << endl;
        }
    }

};
int main()
{
    Rectangle r;
    r.setPoint();

    int n;
    cin >> n;

    for(int i=0;i<n;i++)
    {
        char temp;
        cin >> temp;
        int m;
        if(temp != 'A'){
            cin >> m;
            if(temp=='L')
                r.moveLeft(m);
            if(temp=='R')
                r.moveRight(m);
            if(temp=='U')
                r.moveUp(m);
            if(temp=='D')
                r.moveDown(m);
        }
        else
        {
            char temp1,temp2;
            cin >> temp1 >> temp2 >> m;
            if(temp1=='I')
                r.increase(temp2,m);
            if(temp1=='D')
                r.decrease(temp2,m);
```

```
        }
    }
   r.print();
return 0;
}
```