

```
import java.awt.*;

public class Map{

int sunk;

int[][] table = { {0,0,0,0,0,0,1,0,0,0},
                  {1,0,0,0,0,0,1,0,1,0},
                  {0,0,0,0,0,0,0,0,1,0},
                  {1,0,0,1,1,0,0,0,0,0},
                  {1,0,0,0,0,0,1,0,1,1},
                  {0,0,0,1,1,0,0,0,0,0},
                  {0,0,0,0,0,0,1,0,0,0},
                  {0,0,0,1,1,0,0,0,1,0},
                  {1,1,0,0,0,0,0,0,0,0},
                  {0,0,0,1,0,0,0,1,1,0} };

public Map(){
    sunk =0;
}

public void print(Graphics g){

for (int i =0 ; i< table.length;i++){
    g.drawString(""+(i+1),80,i*15+230);
    for (int j = 0 ;j < table[0].length;j++)
    {
        g.drawString(""+(j+1),j*15+100,210);
        if ( table[i][j] ==2)
            g.drawString("S",j*15+100,i*15+230);
        else if ( table[i][j] ==3)
            g.drawString("~",j*15+100,i*15+230);
        else
            g.drawString("*",j*15+100,i*15+230);
    }
}

}

public int total_hits(){

int hits = 0;
for (int i =0 ; i< table.length;i++)
    for (int j = 0 ;j < table[0].length;j++)
        if (table[i][j] == 2) hits++;

return hits;
}

public int getsunk(){

return sunk;
}
```

```
}

public int shot(int r , int c){
r--;
c--;

if (r < 0 || r > table.length || c < 0 || c > table[0].length )
return -2; // input wasnt ok

if (table[r][c] == 0){
table[r][c] = 3;
return -1; // no hit
}
if (table[r][c] == 1 ){ // we have a hit

table[r][c] = 2;

boolean n = true; // see if we have sunk a whole ship
if ((r-1>=0) && (table[r-1][c] == 1)) n = false;
if ((r+1 < table.length) && (table[r+1][c] == 1)) n = false ;
if ((c-1>=0) && (table[r][c-1] == 1)) n = false;
if ((c+1 < table[0].length) && (table[r][c+1] == 1)) n = false;

if ( n ){
sunk ++; // you just sunk a whole ship
return 2;
}
else return 1; // no you have sunk just a part of the ship

}

return -2; // an error - its a place you allreay shot !

}

}
```

```
import java.awt.*;
import java.awt.event.*;
import java.applet.*;

public class battleShip extends Applet implements ActionListener{

    int round ;
    Map map1 ;

    Button reset ;

    Label l1 , l2 , l3,l4 ,l5;

    Panel p, p1,p2,p3,p4;

    TextField row,col;

    public void init() {

        round =1;
        map1 = new Map();
        resize(300,500);

        row = new TextField(2);
        col = new TextField(2);
        l1 = new Label("row ");
        l2 = new Label("col ");
        l3 = new Label("");
        l4 = new Label("");
        l5 = new Label("round: "+round);
        reset = new Button("restart game");

        col.addActionListener(this);
        reset.addActionListener(this);

        p = new Panel();
        p1 = new Panel();
        p2 = new Panel();
        p3 = new Panel();
        p4 = new Panel();
        setLayout(new BorderLayout());
        p.setLayout(new GridLayout(2,2,0,10));
        p1.setLayout(new GridLayout(3,1,0,10));
        p2.setLayout(new GridLayout(3,1,0,10));
        p4.setLayout(new FlowLayout(FlowLayout.CENTER));

        p1.add(l3);
        p1.add(l4);
        p1.add(l5);
        p3.add(reset);
        p.add(l1);
```

```
p.add(row);
p.add(l2);
p.add(col);
add(p);
add(p1);
p2.add(p3);
p2.add(p);
p4.add(p2);
add(p4, "North");
add (p1, "South");
```

```
}
```

```
public void paint (Graphics g){
    map1.print(g);
}
```

```
public void actionPerformed(ActionEvent e){
```

```
    if (e.getSource() == reset){
        round = 1;
        map1 = new Map();
        l3.setText("");
        l4.setText("");
        l5.setText("round: "+round);
        row.setText("");
        col.setText("");
```

```
    }
```

```
    else{
```

```
        if (round == 50){
            row.setText("");
            col.setText("");
            l3.setText("game is over , you sunk "+map1.getsunk()+" ships");
            l4.setText (""+ map1.total_hits() +" rounds reached there target !");
            l5.setText(" to start a new game , press reset button");
            return;
        }
```

```
// if ok
```

```
int r = Integer.parseInt(row.getText());
int c = Integer.parseInt(col.getText());
row.setText("");
col.setText("");
int result = map1.shot(r,c);
if (result == -2 ){
    l4.setText("wrong place ! try again");
    return;
}
if (result == -1 )
```

```
14.setText("no hit , shot again !");  
if (result == 1)  
14.setText("a vessale was hit , shot again !");  
if (result == 2 )  
14.setText("wow!! you sunk a vessale , shot again !");
```

```
round++;
```

```
15.setText("round: "+round);
```

```
}
```

```
repaint(); // draw table again
```

*// end of else*

```
}
```

```
}
```