9. $h=1$, $x_i=i$, $y_j=j$, $0\le i,j\le 3$.

差分格式为

$$\begin{cases} 4u_{ij}-(u_{i+1,j}+u_{i-1,j}+u_{i,j+1}+u_{i,j-1})=6x_i-2, \\ \qquad\qquad 1\le i,j\le 2 \\ u_{ij}=x_i^3-y_j^3, \quad i=0 \text{ 或 } 3, \quad j=0 \text{ 或 } 3, \end{cases}$$

即

$$\begin{cases} 4u_{1,1}-(-1+u_{2,1}+1+u_{1,2})=6-2 \\ 4u_{2,1}-(u_{1,1}+26+8+u_{2,2})=6\times 2-2 \\ 4u_{1,2}-(-8+u_{2,2}+u_{1,1}-26)=6-2 \\ 4u_{2,2}-(u_{1,2}+19+u_{2,1}-19)=6\times 2-2 \end{cases}$$

化简得

$$\begin{cases} 4u_{11}-u_{21}-u_{12}=4 \\ 4u_{21}-u_{11}-u_{22}=44 \\ 4u_{12}-u_{11}-u_{22}=-30 \\ 4u_{22}-u_{12}-u_{21}=10 \end{cases}$$

解得

$$u_{11}=\frac{11}{4},\quad u_{21}=\frac{51}{4},\quad u_{12}=-\frac{23}{4},\quad u_{22}=\frac{17}{4}.$$