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| **Question Number** | **I** | **II** | **Total** |
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| **Question I:If** $w=f(u,v,s)$ **has continuous second partial derivatives with** $u=x-y$**,** $v=y-z$ **and** $s=z-x$**,****a. Show that** $w\_{x}+w\_{y}+w\_{z}=0$**b. Find** $w\_{xx}$ |
| **Question II: Find the maximum and minimum values of** $f\left(x,y\right)=x^{2}+xy$ **on the region** $R$ **bounded by the graphs** $y=x^{2}$**and** $y=9$**.** |

Good Luck☺