Exercise 1 $\prod_{Sname}(\sigma_{color="red"}(parts) \bowtie Suppliers)$

$(\prod_{sid}(\prod_{pid}(\sigma_{color='red'Vcolor='green'}(Parts)) \bowtie Catalog))$

$\prod_{sid}(\sigma_{color='red'}(Parts) \bowtie Catalog) \cup \prod_{sid}(\sigma_{address='221PackerStreet'}(Suppliers))$

$\prod_{sid}((\prod_{pid} \sigma_{color='red'}(Parts)) \bowtie Catalog) \cup \prod_{sid}((\prod_{p} id\sigma_{color='green'}(Parts)) \bowtie Catalog)$

$\prod_{sid,pid} Catalog / \prod_{pid} Parts$

$\prod_{sid,pid} Catalog / (\prod_{pid} \sigma_{color='red'}(Parts))$

$(\prod_{sid,pid} Catalog) / (\prod_{pid} \sigma_{color=redVcolor=green}(Parts))$

$((\prod_{sid,pid} Catalog) / (\prod_{pid} \sigma_{color=red}(Parts))) \cup ((\prod_{sid,pid} Catalog) / (\prod_{pid} \sigma_{color=green}(Parts)))$

$\prod_{Catalog1.sid,Catalog2.sid}(\sigma_{Catalog1.pid=Catalog2.pidCatalog1.sid!=Catalog2.sidCatalog1.cost>Catalog2.cost}(Catalo Catalog2))$

$\prod_{Catalog1.sid}(\sigma_{Catalog1.pid=Catalog2.pidCatalog1.sid!=Catalog2.sidCatalog1.cost>Catalog2.cost}(Catalog1 \times Catalog2))$

Exercise 2 TASK 2

1. Find the names of suppliers who supply any red parts cheaper than 100 dollars
2. Find the names of suppliers who supply any red parts, and any green parts, such that both green and red parts are cheaper than 100 dollars
3. Find the sids of suppliers that supply red parts and green parts, such that both red parts and green parts are cheaper than 100 dollars.
4. Find the names of suppliers that supply any red parts and any green parts, such that both red parts and green parts are cheaper than 100 dollars