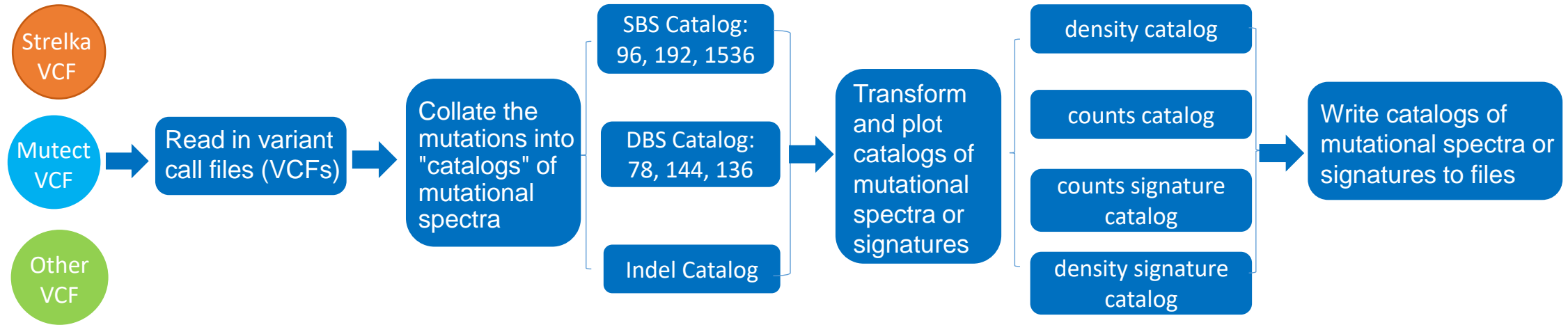
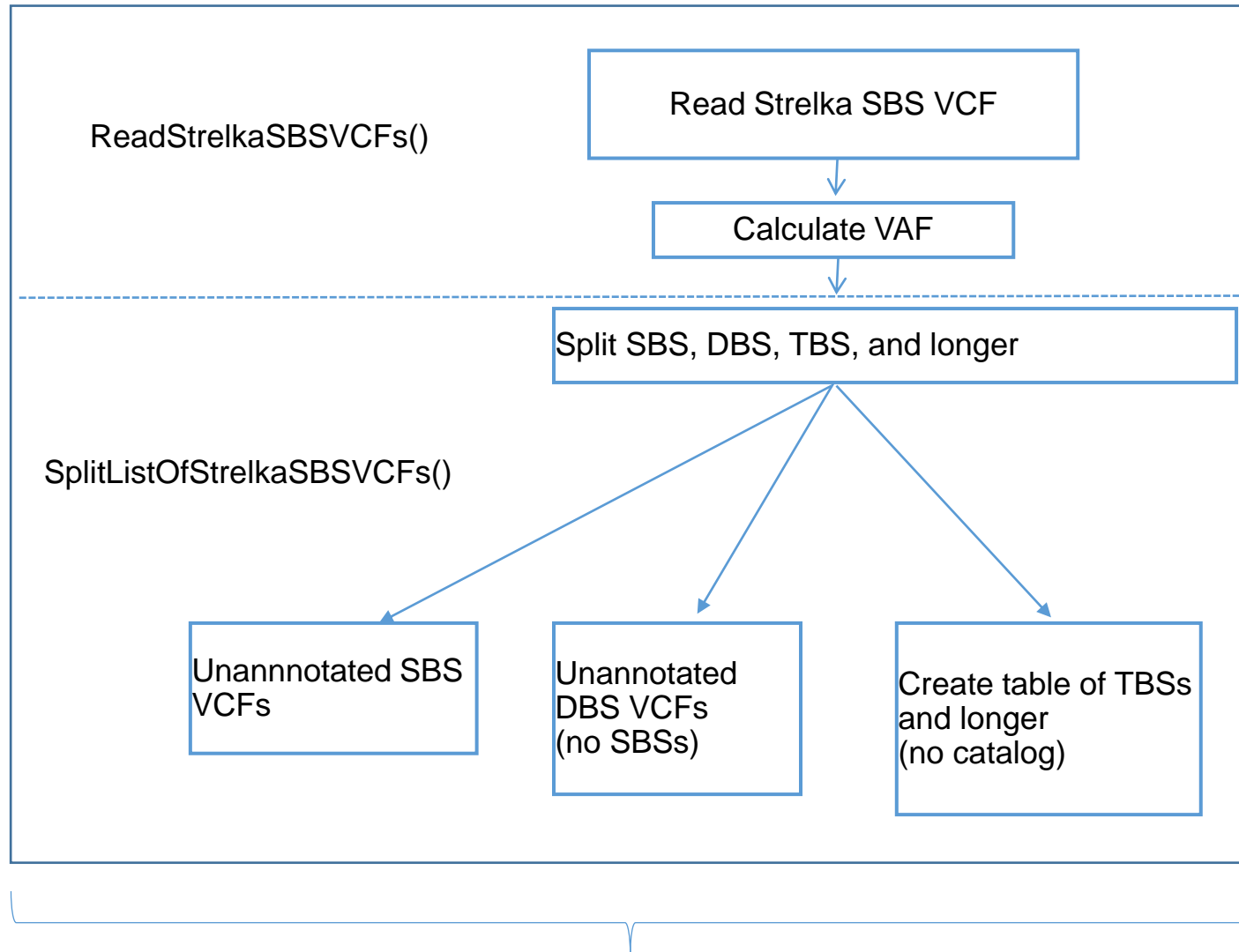


Overview of ICAMS R package functionalities

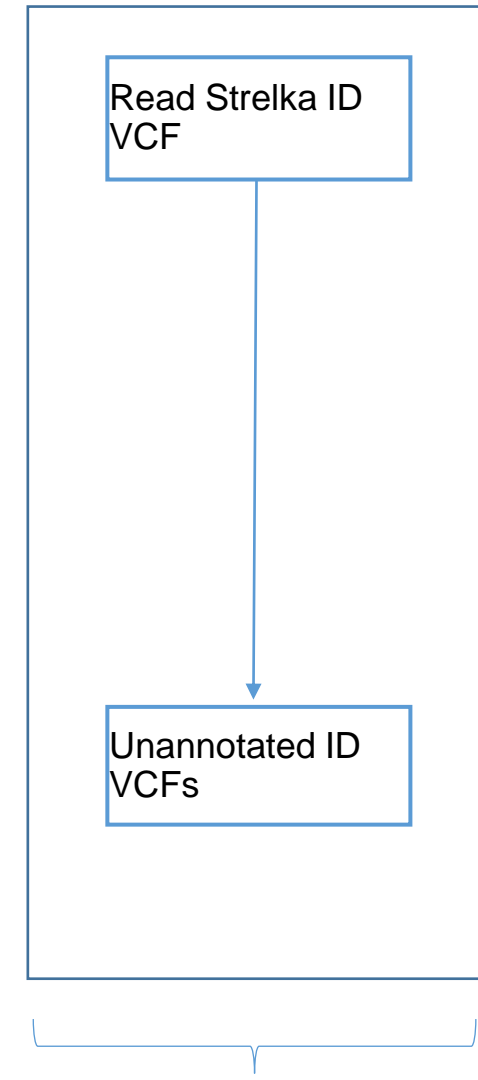


*SBS 192 and DBS 144 catalogs only include mutations in transcribed regions

Strelka VCF processing



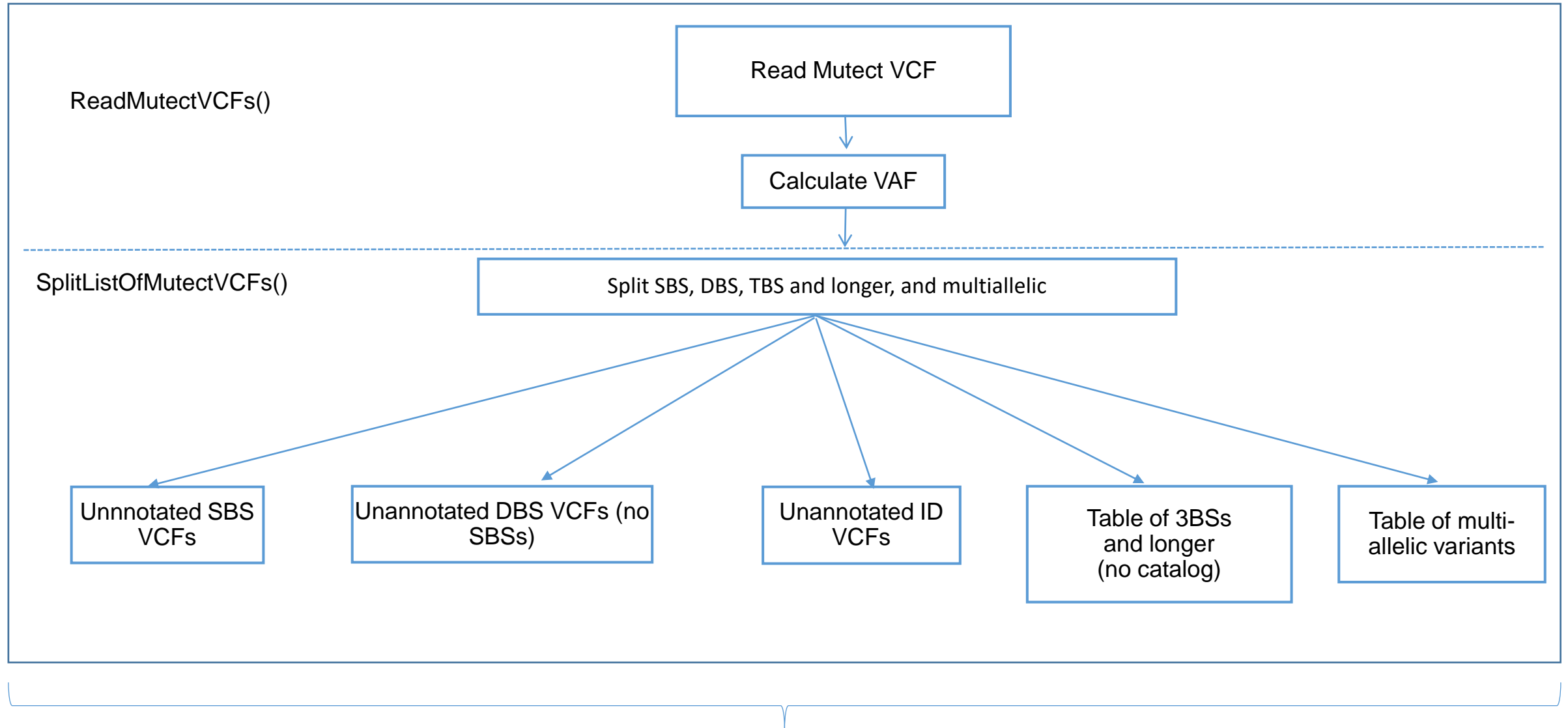
`ReadAndSplitStrelkaSBSVCFs()`



`ReadStrelkaIDVCFs()`

* Functions whose names in red color are exported in ICAMS

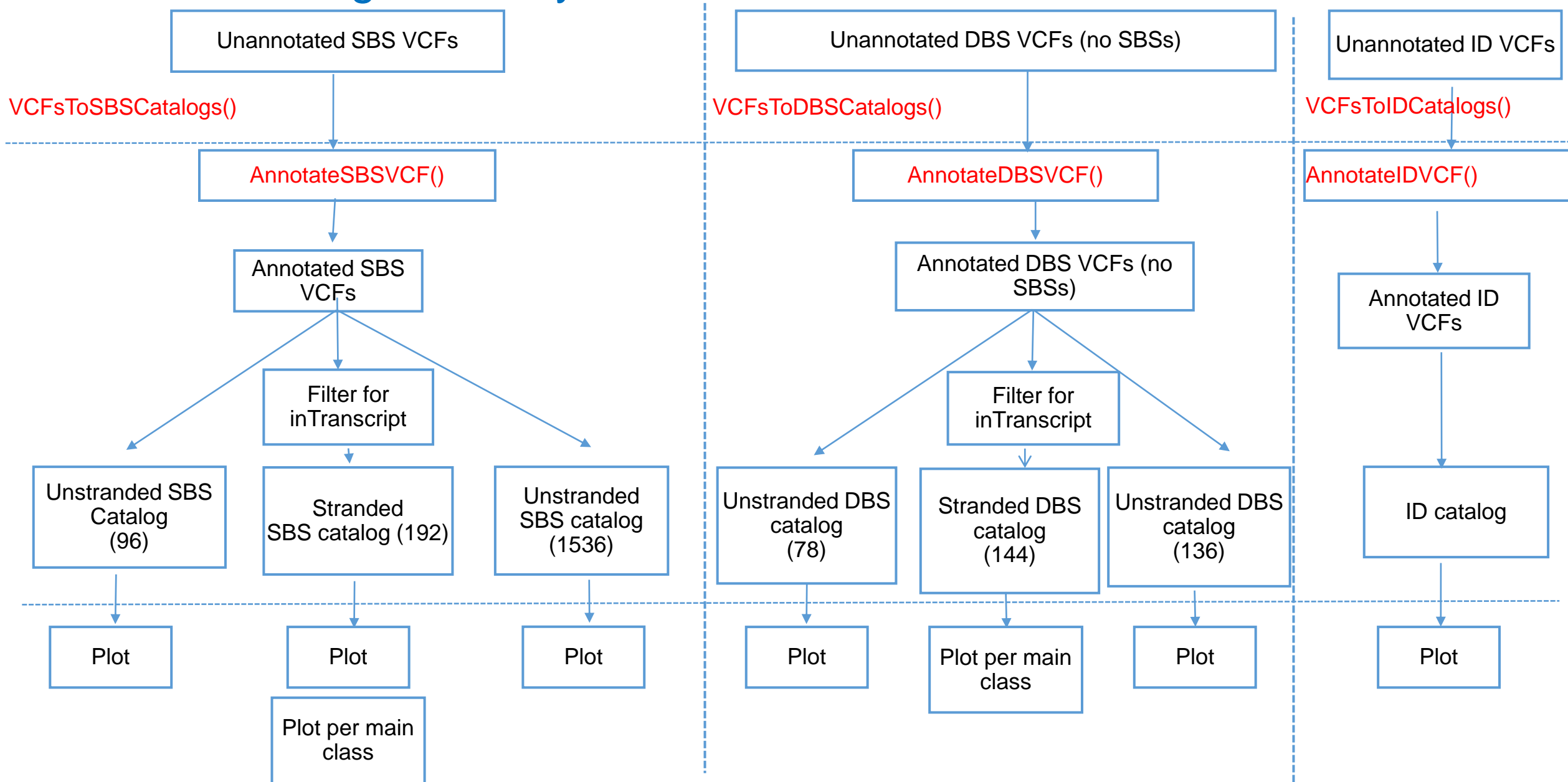
Mutect VCF processing



`ReadAndSplitMutectVCFs()`

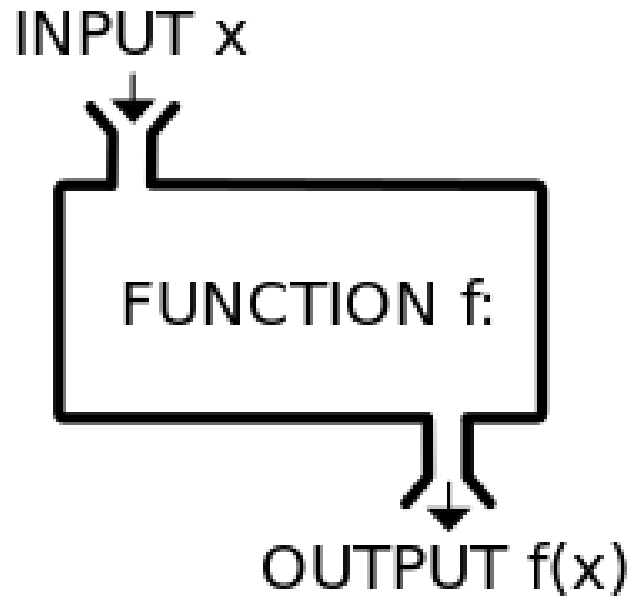
* Functions whose names in red color are exported in ICAMS

VCFs to catalogs and beyond



* Functions whose names in red color are exported in ICAMS

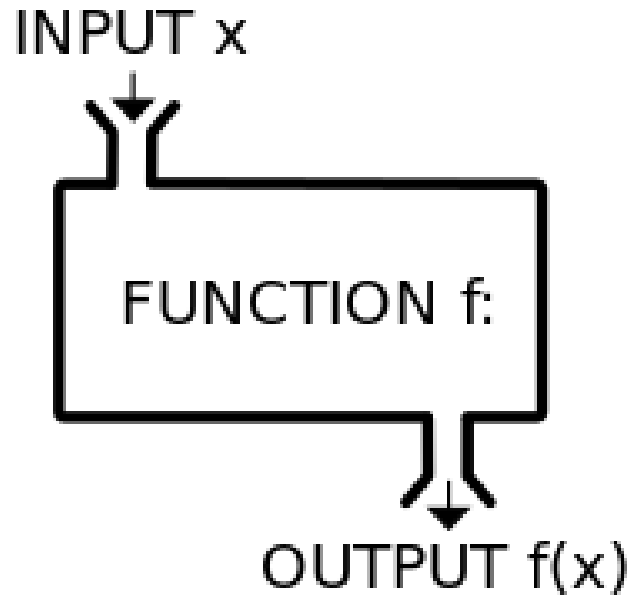
Important exported functions in ICAMS



Creating catalogs from variant call files (VCF files)

- VCFsToCatalogs()
- StrelkaSBSVCFFilesToCatalog()
- StrelkaIDVCFFilesToCatalog()
- MutectVCFFilesToCatalog()

Important exported functions in ICAMS

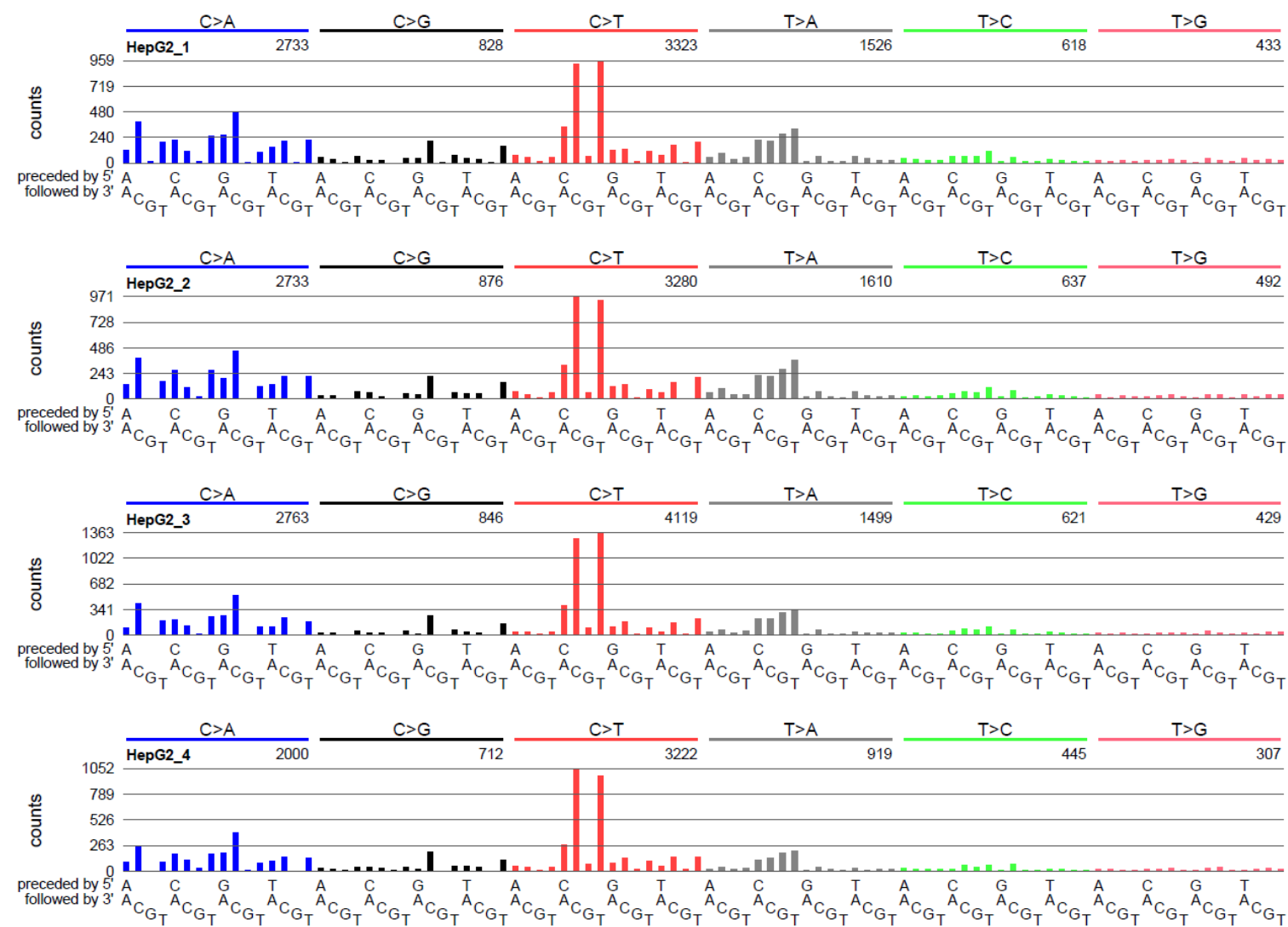


Plotting catalogs

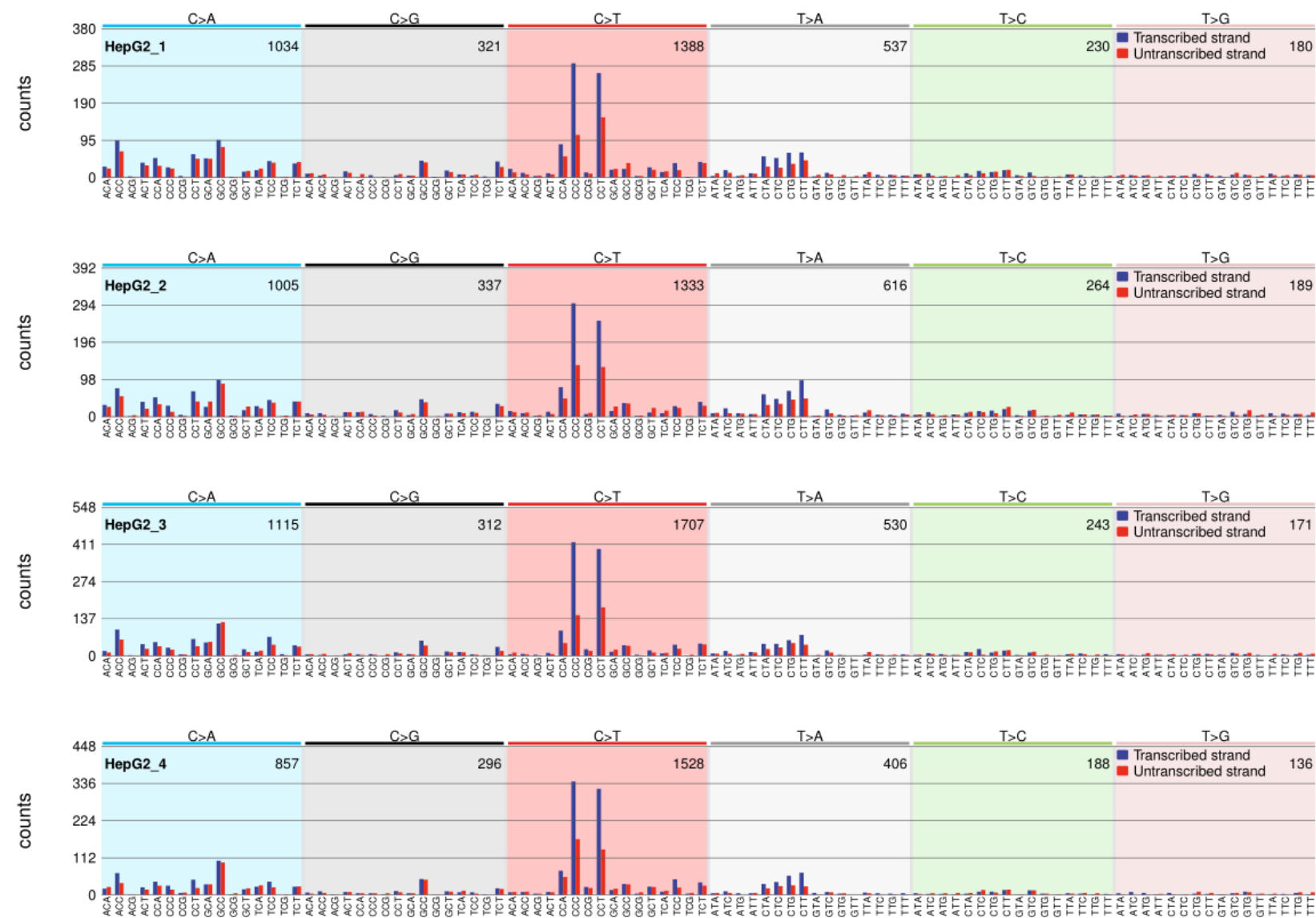
- `PlotCatalog()`
- `PlotCatalogToPdf()`

<https://howtoprogramwithjava.com/functions-in-javascript/>

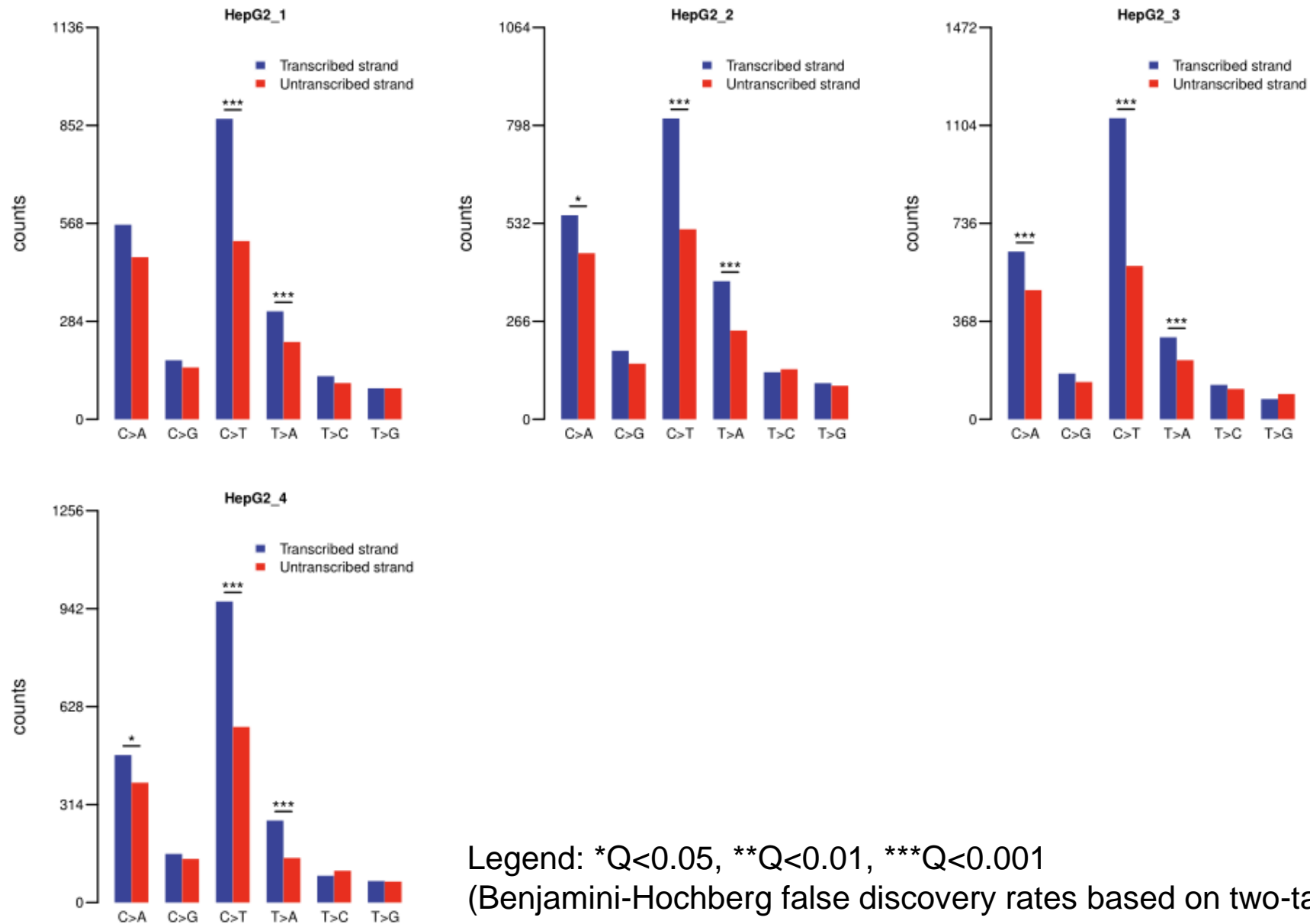
PlotCatalogToPdf(): SBS96 Catalog



PlotCatalogToPdf(): SBS192 Catalog



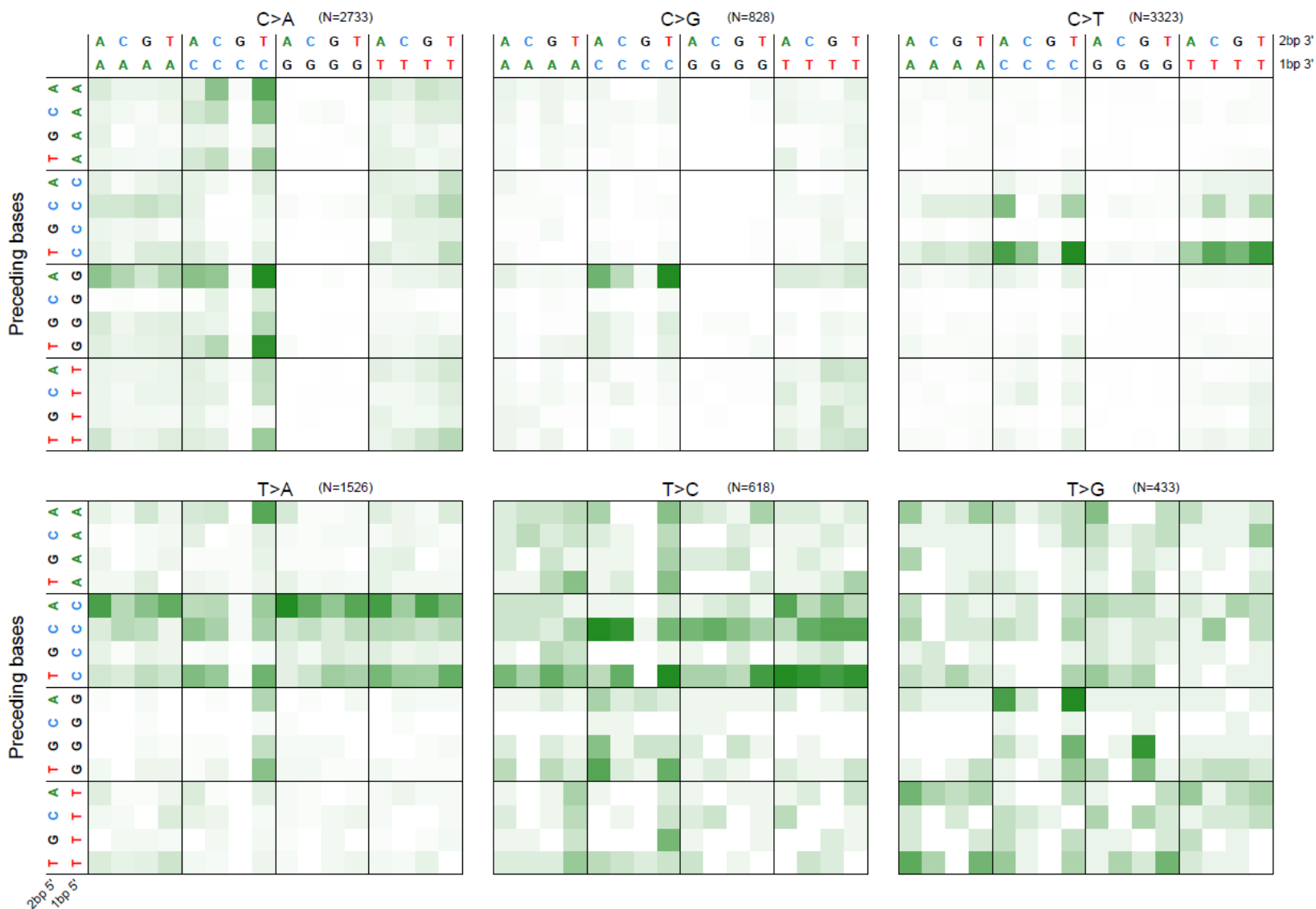
PlotCatalogToPdf(): SBS192 counts catalog with argument plot.SBS12 = TRUE



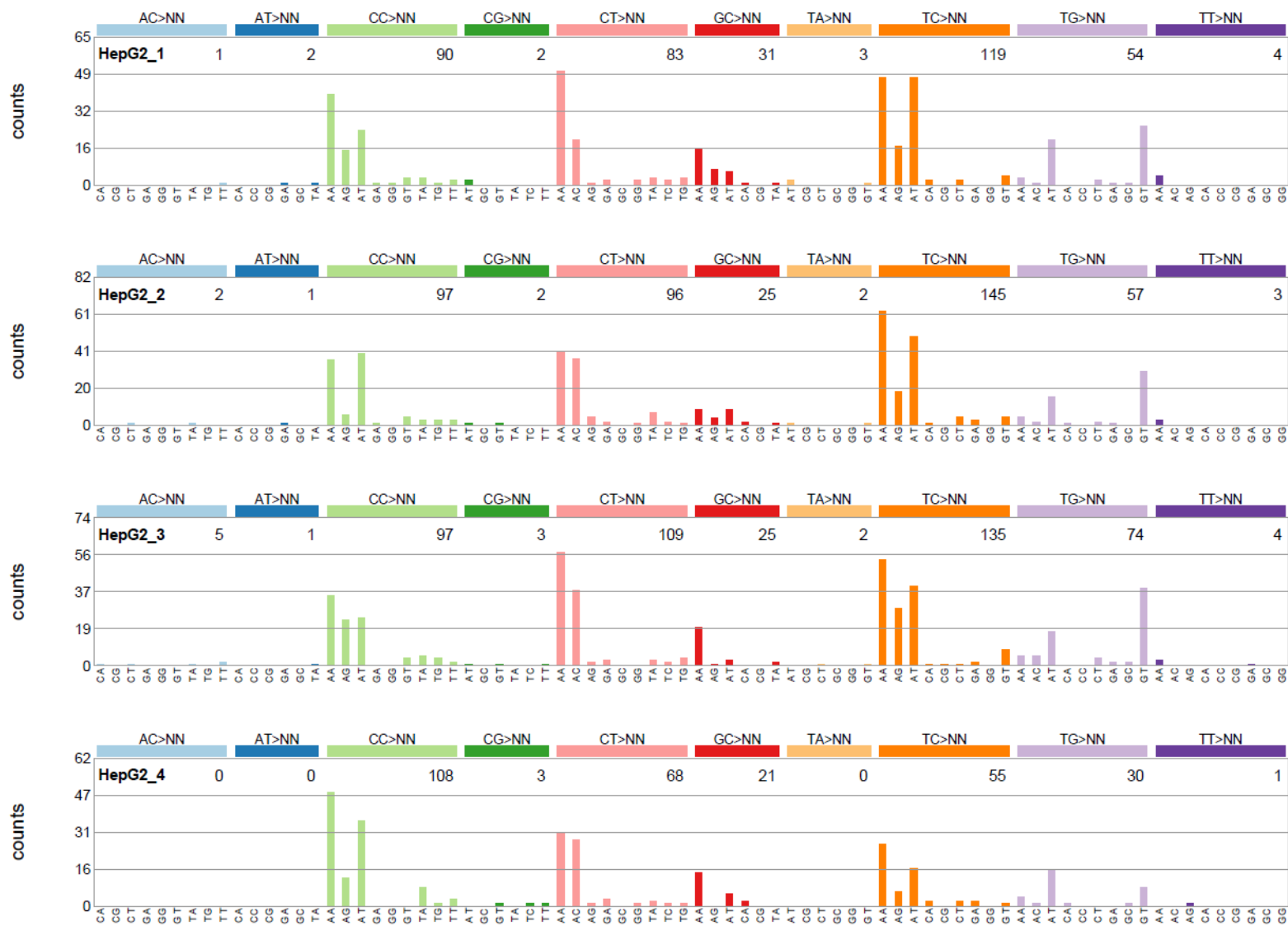
Legend: * $Q < 0.05$, ** $Q < 0.01$, *** $Q < 0.001$
(Benjamini-Hochberg false discovery rates based on two-tailed binomial tests)

PlotCatalogToPdf(): SBS1536 Catalog

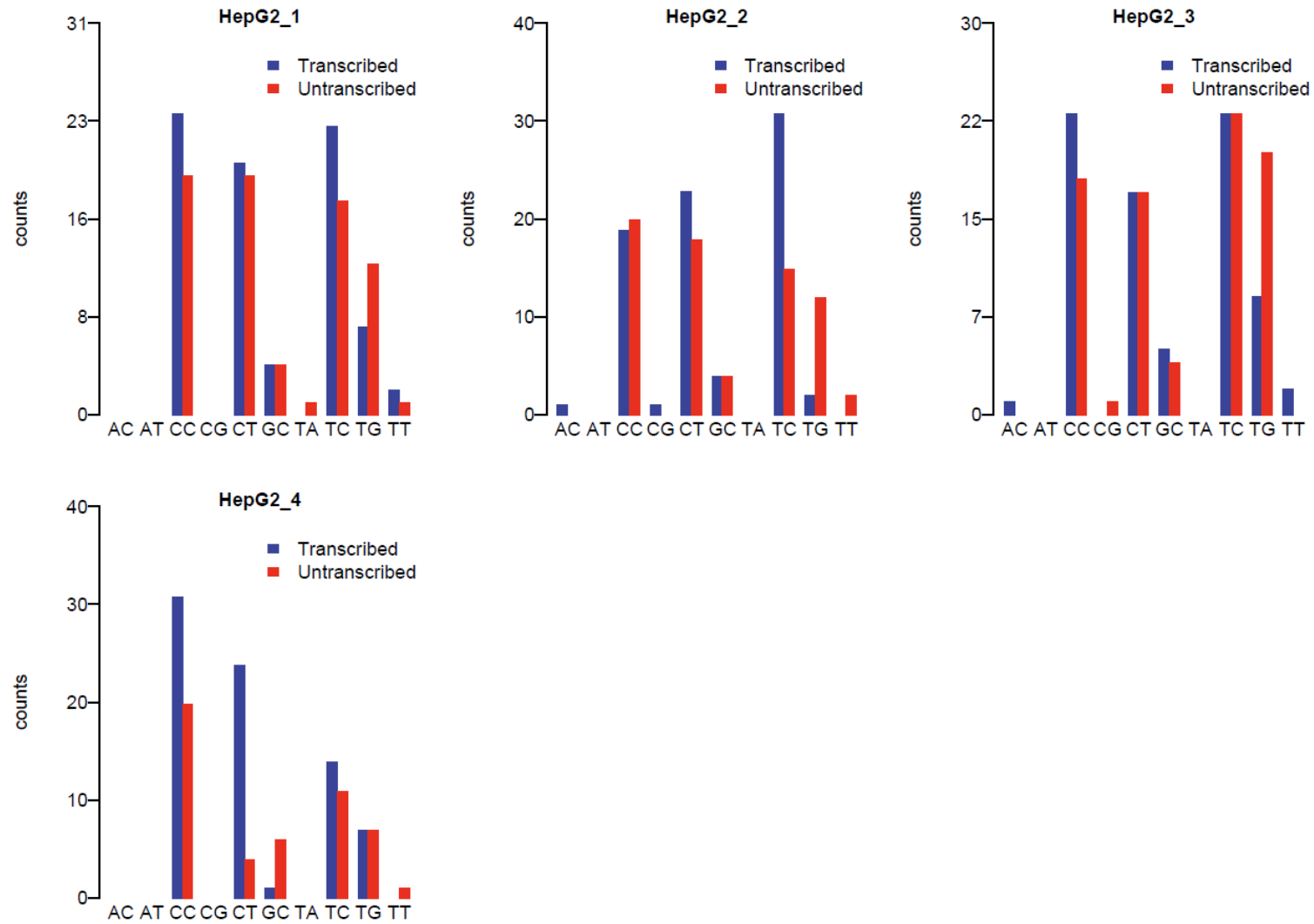
HepG2_1



PlotCatalogToPdf(): DBS78 Catalog

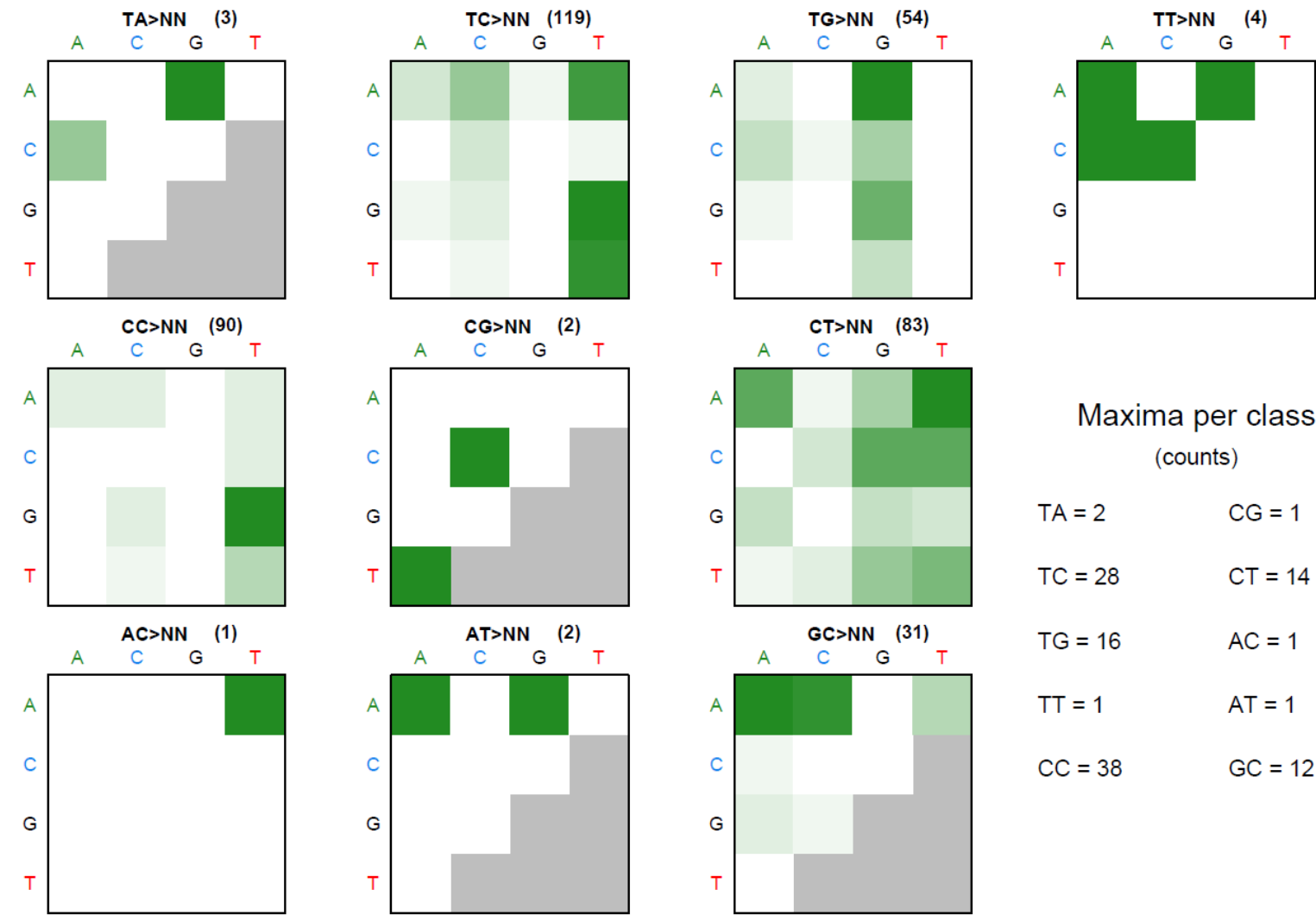


PlotCatalogToPdf(): DBS144 Catalog



PlotCatalogToPdf(): DBS136 Catalog

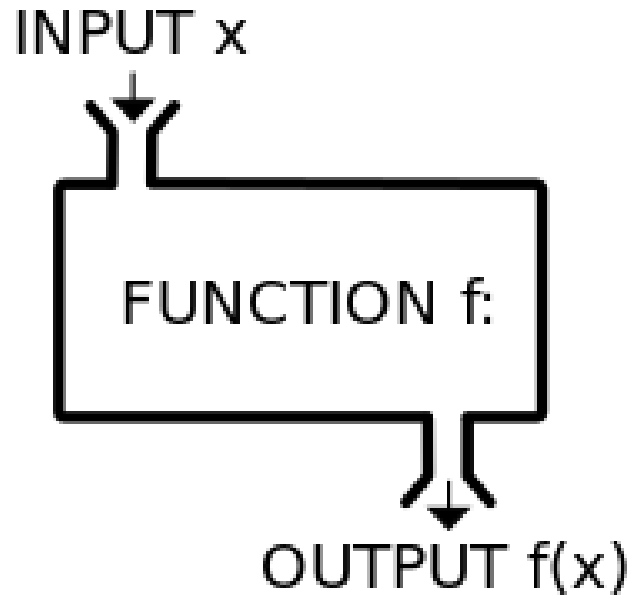
HepG2_1



PlotCatalogToPdf(): Indel Catalog



Important exported functions in ICAMS

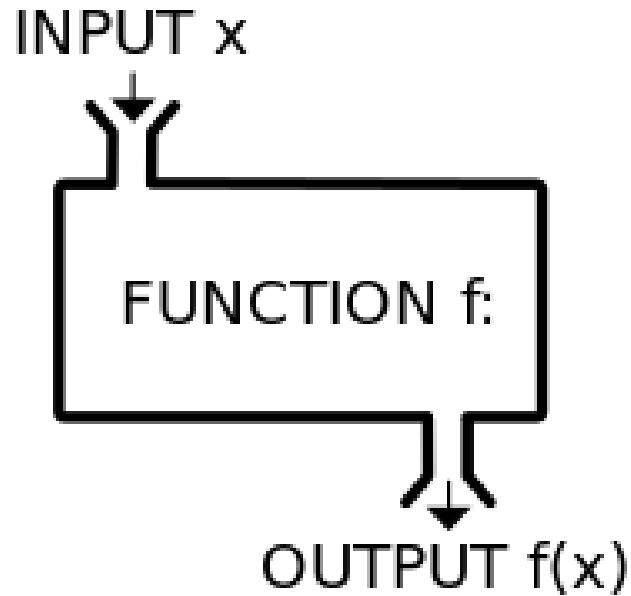


Creating catalogs and plot them to PDF

- `VCFsToCatalogsAndPlotToPdf()`
- `StrelkaSBSVCFFilesToCatalogAndPlotToPdf()`
- `StrelkaIDVCFFilesToCatalogAndPlotToPdf()`
- `MutectVCFFilesToCatalogAndPlotToPdf()`

<https://howtoprogramwithjava.com/functions-in-javascript/>

Important exported functions in ICAMS

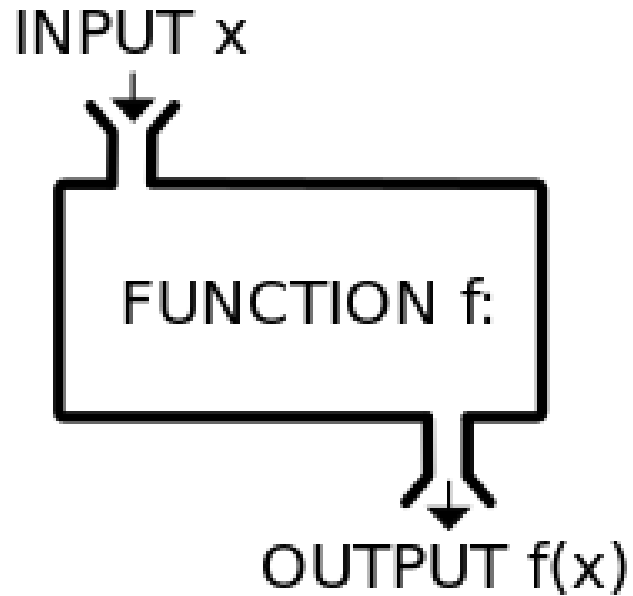


<https://howtoprogramwithjava.com/functions-in-javascript/>

Creating a zip archive containing catalogs saved as CSV files and plotted as PDFs

- `VCFsToZipFile()`
- `StrelkaSBSVCFFilesToZipFile()`
- `StrelkaIDVCFFilesToZipFile()`
- `MutectVCFFilesToZipFile()`

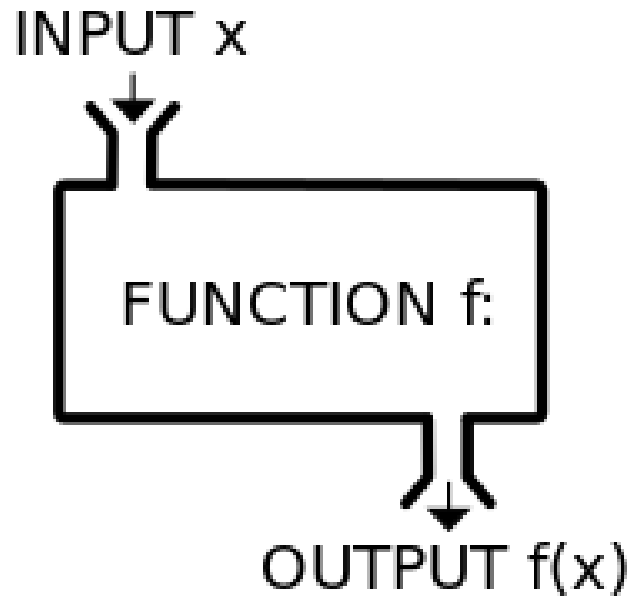
Important exported functions in ICAMS



Annotating in-memory VCFs

- `AnnotateSBSVCF()`
- `AnnotateDBSVCF()`
- `AnnotateIDVCF()`

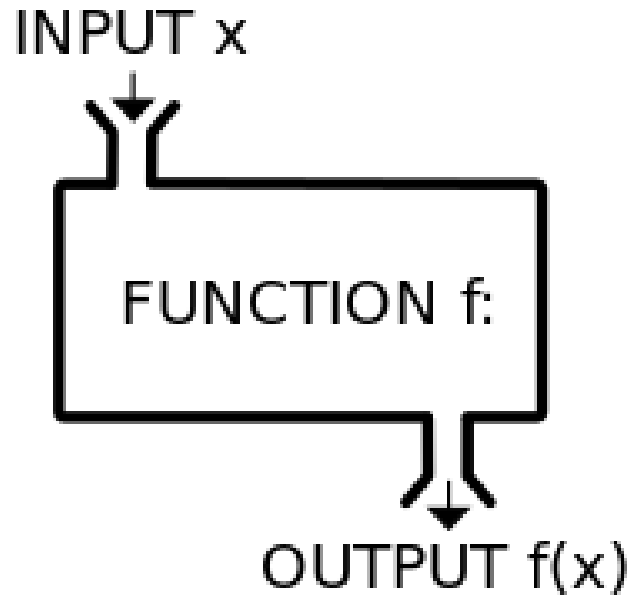
Important exported functions in ICAMS



Reading and writing catalogs

- ReadCatalog()
- WriteCatalog()

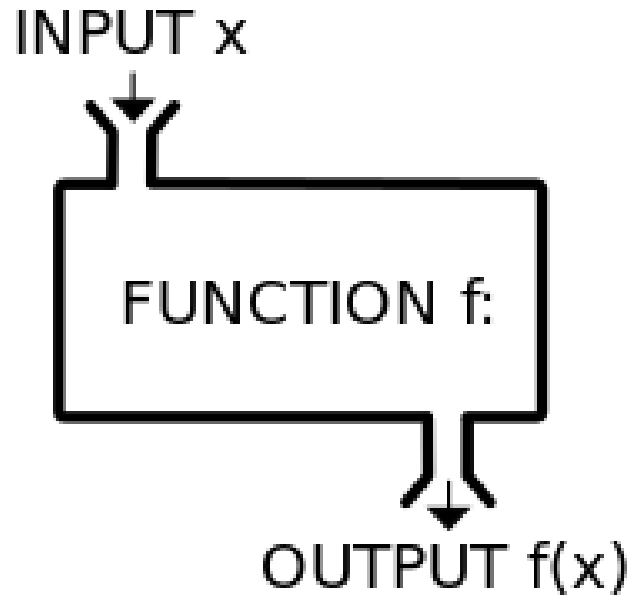
Important exported functions in ICAMS



"Collapse" a catalog

- Collapse192CatalogTo96()
- Collapse1536CatalogTo96()
- Collapse144CatalogTo78()

Important exported functions in ICAMS



Utility functions

- TransformCatalog()
- as.catalog()
- revc()