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#!/usr/local/bin/perl -w

use strict;
use warnings;

#use lib '/project/rodent/medaka_anja/pscripte';
#use ClusterFunc;

my($USAGE) = "$0   ***Dateiname***\n";

unless (@ARGV) {
    print $USAGE;
    exit;}

my $filename = $ARGV[0];

unless (open(GET_DATA,$filename)) {
    print STDERR "Cannot open file\"$filename\"\n\n";
    exit;}

#outputfile
#my $outputfilename = 'AnjaBlast';
#$outputfilename = $outputfilename.'1';
#

my $data = '';
my $clone = '';
my @temp;
my $outputfilename = '';
my $anfang = 0;
my $size = 0;
my $realsize = 0;
my $clust_size = 0;
my $found = 0;
my @ClustArray;
my $sum = 0;
my $i = 0;
my $div = 0;

while ($data = <GET_DATA>){
    $data =~ s/\n//;
    if (($data =~ /^Med/) or ($data =~ /sbtr/)){
        if ($anfang){
            foreach $clust_size(@ClustArray){$size = $size+$clust_size;}
            if ($size == $realsize){
                for ($i=0;$i<scalar(@ClustArray);$i++){
                    $ClustArray[$i] = ($ClustArray[$i] / $size)*log2
(($ClustArray[$i] / $size));}
                foreach $clust_size(@ClustArray){$sum = $sum + $clust_size;}
                $sum = $sum *(-1);
                if ($sum != 0){
                    $div = $sum / (log2($size));
                    print "$clone $realsize $div\n";}
                else {print "$clone $realsize $sum\n";}
                else {print "$clone $realsize Fehler: $size\n";}
                @temp = split(/\s+/, $data);
                $realsize = $temp[1];$clone=$temp[0];
                @ClustArray = ();$size = 0;$sum = 0;
            }
            else {push (@ClustArray,$data);$anfang = 1;}
        }#while

foreach $clust_size(@ClustArray){$size = $size+$clust_size;}
    if ($size == $realsize){

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        for ($i=0;$i<scalar(@ClustArray);$i++){
            $ClustArray[$i] = ($ClustArray[$i] / $size)*log2
(($ClustArray[$i] / $size));}
        foreach $clust_size(@ClustArray){$sum = $sum + $clust_size;}
        $sum = $sum * (-1);
        if ($sum != 0){
            $div = $sum / (log2($size));
            print "$clone $realsize $div\n";}
        else {print "$clone $realsize $sum\n";}}
    else {print "$clone $realsize Fehler: $size\n";}

exit;

sub log2 {
    my ($n) = @_;
    return log($n)/log(2);
}

```