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#!/usr/local/bin/perl
use File::ReadBackwards;
#use Cwd;
use Switch;
my $pwd=cwd();
open $FILE, '>>', '.hist' or die "Could not open file '$filename' $!";
#print "MyShell: ", $pwd, "# ";
print "osh> ";

do{
    $text=<>;
    chomp($text);
}while(!defined $text);
chomp($text);
@command=split(/ /,$text);
while($command[0] ne "exit") {
    my $pid=fork();
    if (!defined $pid) {
        die "Cannot fork: $!";
    }
    elsif ($pid == 0) {
        my $temp=join("",@command);
        chomp($temp);
        if(!defined $temp){
            exit;
        }
        $fh = File::ReadBackwards->new('.hist') or die "can't read file: $!\n";
        my $line;
        my @hist;
        my @last;
        my $i=0;
        while (defined($line = $fh->readline)){
            chomp($line);
            if( length($line)<1){
                next;
            }
            $hist[$i]=$line;
            $i++;
            #if($i==10){
            #    break;
            #}
        }
        if($command[0] =~ /^!!$/){
            if(-z $FILE){
                print "No commands in history!\n";
                exit;
            }
            $last[0]=$hist[0];
            if($hist[0] =~ /history/){
                goto HIST;
            }
            chomp($last[0]);
            system(@last);
            print $FILE $last[0];
            print $FILE "\n";
            if ($? == -1) {
                print "failed to execute in !!: $!\n";
            }
            exit;
        }
        elsif($command[0] =~ /^!/ && $command[0] =~ /[0-9]$/){
            my $index=0;
            switch(length($command[0])){
                case 2 {
                    $command[0] =~ /(\d)/;
                    if($1>=$i){
                        print "Invalid reference!\n";
                        exit;
                    }
                    $last[0]=$hist[$i-$1];
                    if($last[0] =~ /history/){
                        goto HIST;
                    }
                    chomp($last[0]);

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system(@last);
print $FILE $last[0];
print $FILE "\n";
if ($? == -1) {
    print "failed to execute: $!\n";
}
exit;
}
case 3 {
    $command[0]=~ /(\d)(\d)/;
    $index=0+($1.$2);
    if($index>=$i){
        print "Invalid reference!\n";
        exit;
    }
    $last[0]=$hist[$i-$index];
    if($last[0]=~ /history/){
        goto HIST;
    }
    chomp($last[0]);
    system(@last);
    print $FILE $last[0];
    print $FILE "\n";
    if ($? == -1) {
        print "failed to execute: $!\n";
    }
    exit;
}
case 4 {
    $command[0]=~ /(\d)(\d)(\d)/;
    $index=0+($1.$2.$3);
    if($index>=$i){
        print "Invalid reference!\n";
        exit;
    }
    $last[0]=$hist[$i-$index];
    if($last[0]=~ /history/){
        goto HIST;
    }
    chomp($last[0]);
    system(@last);
    print $FILE $last[0];
    print $FILE "\n";
    if ($? == -1) {
        print "failed to execute: $!\n";
    }
    exit;
}
case 5 {
    $command[0]=~ /(\d)(\d)(\d)(\d)/;
    $index=0+($1.$2.$3.$4);
    if($index>=$i){
        print "Invalid reference!\n";
        exit;
    }
    $last[0]=$hist[$i-$index];
    if($last[0]=~ /history/){
        goto HIST;
    }
    chomp($last[0]);
    system(@last);
    print $FILE $last[0];
    print $FILE "\n";
    if ($? == -1) {
        print "failed to execute: $!\n";
    }
    exit;
}
case 6 {
    $command[0]=~ /(\d)(\d)(\d)(\d)(\d)/;
    $index=0+($1.$2.$3.$4.$5);
    if($index>=$i){
        print "Invalid reference!\n";
        exit;
    }

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    }
    $last[0]=$hist[$i-$index];
    if($last[0] =~ /history/){
        goto HIST;
    }
    chomp($last[0]);
    system(@last);
    print $FILE $last[0];
    print $FILE "\n";
    if ($? == -1) {
        print "failed to execute: $!\n";
    }
    exit;
}
else {print "99999 commands only!\n"; exit; }
}
}
elseif($command[0] eq "history"){
HIST: if(-z $FILE){
    print "No commands in history!\n";
    print $FILE $text;
    print $FILE "\n";
    exit;
}
if($i<10){
    for(my $j=0;$j<$i;$j++){
        print $i-$j, " ", $hist[$j], "\n";
    }
}
else{
    for(my $j=0;$j<=9;$j++){
        print $i-$j, " ", $hist[$j], "\n";
    }
}
if($text =~ /^!$/){
    print $FILE $last[0];
    print $FILE "\n";
    exit;
}
if($command[0] =~ /^!/ && $command[0] =~ /[0-9]$/){
    print $FILE $last[0];
    print $FILE "\n";
    exit;
}
print $FILE $text;
print $FILE "\n";
exit;
}
elseif($text =~ /&$/) {
    $text =~ s/&///;
    @command = split(/ /, $text);
    exec(@command);
    $text = $text, " &";
    print $FILE $text;
    print $FILE "\n";
    if ($? == -1) {
        print "failed to execute: $!\n";
    }
    exit
}
else {
    system(@command);
    if($text =~ /^$/){
        exit;
    }
    print $FILE $text;
    print $FILE "\n";
    if ($? == -1) {
        print "failed to execute: $!\n";
    }
    exit;
}
}
}
#elseif($text =~ /&$/ && $pid!=0){

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#sleep 1;
#print "osh> ";
#do{
#text=<>;
#text=~ s/^\s+|\s+$/g;
#chomp($text);
#}while(!defined $text);
#chomp($text);
#@command=split(/ /,$text);
#}
else{
    waitpid (-1,0);
    #print "MyShell: ",$pwd,"# ";
    print "osh> ";
    do{
        $text=<>;
        $text=~ s/^\s+|\s+$/g;
        chomp($text);
    }while(!defined $text);
    chomp($text);
    if($text =~ /history/){
        print $FILE $text;
        print $FILE "\n";
    }
    @command=split(/ /,$text);
}
}
close $FILE;

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