Indian Institute of Information Technology Vadodara

CS266 Operating System Lab

Lab Assignment 2

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File handling

1. Write a file handling program to read .c file (C program file) and remove vowels from the source and copy the remaining content to another file.

Ans:-

Code:

```
#include<iostream>
#include <fstream>
#include <vector>
using namespace std;
int main(){
auto clear = [&](string &s)-> void {
string res= "" ;
for ( auto &i: s){
if (i== 'a' ||i== 'A' ) continue ;
else if (i== 'e' ||i== 'E' ) continue ;
else if (i== 'i' ||i== 'I' ) continue ;
else if (i== 'o' ||i== 'O' ) continue ;
else if (i== 'u' ||i== 'U' ) continue ;
else res+=i;
}
s=res;
};fstream source;
cout << "Enter name of source file with extension: " ;
string name;
cin >> name;
source.open(name,ios:: in );
if (!source) {
}
cout << "No such file" ;
else {
vector<string> v;
string s;
```

```
while ( 1 ) {
getline(source,s);
if (source.eof())
break ;
v.push_back(s);
}
source.close();
name = name.substr( 0 ,name.size()- 2 ) + "New.c" ;
source.open(name,ios::out|ios::trunc);
for ( auto &i: v){
clear(i);
if (i.size()) source<<i<< "\n" ;
}
cout << "Work done, successfully!" ;
}
source.close();
return 0 ;
}
```

Shell Scripting

2. Write a shell script to display arguments to script. Enter any three input arguments to script and display.
e.g. < scriptname > arg1 arg2 arg3
o/p: argument1 is arg1. argument2 is arg2. argument3 is arg3
Ans:-

Code:-

```
echo "Enter argument 1"
read arg1
echo "Enter argument 2"
read arg2
echo "Enter argument 3"
read arg3
echo "Argument 1 is $arg1 "
echo "Argument 2 is $arg2 "
echo "Argument 3 is $arg3 "
```

Output:-

```
enter your first arugment
10
enter your second arugment
20
enter your third arugment
30
10
20
30


...Program finished with exit code 0
Press ENTER to exit console.
```

3. Enter 5 integer numbers as arguments to shell script and obtain the highest, the lowest and the average number.
e.g. i/p: < scriptname > 11 22 33 44 55 !
o/p: Highest: 55, Lowest:11, Average:33
Ans:-

Code:-

```
read integers[0]
read integers[1]
read integers[2]
read integers[3]
read integers[4]

biggest=${integers[0]}
smallest=${integers[0]}
sum=0

for i in ${integers[@]}
do
    sum=$((sum+$i))

     if [[ $i -gt $biggest ]]
     then
        biggest="$i"
     fi

     if [[ $i -lt $smallest ]]
     then
```

```
        smallest="$i"
    fi
done


echo "Highest: $biggest, Lowest: $smallest, Average:$(($sum/5)) "
```

Output:-

```
10
20
30
40
50
Highest: 50, Lowest: 10, Average:30


...Program finished with exit code 0
Press ENTER to exit console.
```

4. Perform basic operations such as addition, subtraction, multiplication and division onto two input integers. Use three arguments (value1, operator, value2) for shell script. e.g. i/p: < scriptname > 4 + 3 ! o/p:7, i/p: < scriptname > 4 - 3 ! o/p:1 , <scriptname > 13 * 3 ! o/p:39, i/p: < scriptname > 13 / 4 ! o/p: 3

Ans:-

Code:-

```
a=16
b=35
val=`expr $a + $b`
echo "a + b : $val"
val=`expr $a - $b`
echo "a - b : $val"
val=`expr $a \* $b`
echo "a * b : $val"
```

Output:-