//mahrukh malik

//assignment :2

//l1f21bscs0273

//header file:

class String

{

public:

String();

String(const String& str);

String(const String& str, int pos, int len);

String(char\* s);

String(char\* s, int n);

String(int n, char c);

int length(char \*);

char at(int i,char\*);

void display();

String substr(int pos, int len);

private:

int size;

char \*name;

};

//header.cpp":

#include<iostream>

#include"String.h"

using namespace std;

String::String(){}

String::String(const String& str)

{

this->size = str.size;

name = new char[size + 1];

for (int i = 0; i < size; i++)

{

name[i] = str.name[i];

}

name[size] = NULL;

}

void String::display()

{

cout << name << endl;

}

String::String(const String& str, int pos, int len)

{

this->size = str.size;

name = new char[size + 1];

for (int i = 0; i < size; i++)

{

name[i] = str.name[i];

}

name[size] = '\0';

if (len>size)

{

cout << " Length is greter :(" << endl;

}

else

{

int k = len - pos + 1;

char \*arr = new char[k + 1];

int j = 0;

for (int i = pos; i < len; i++)

{

arr[j] = name[i];

j++;

}

arr[j] = '\0';

delete[] name;

name = nullptr;

name = new char[k + 1];

for (int i = 0; i < k; i++)

{

name[i] = arr[i];

}

name[k] = '\0';

delete[] arr;

arr = nullptr;

}

}

String::String(char\* s)

{

String obj;

size = obj.length(s);

name = new char[size + 1];

for (int i = 0; i < size; i++)

{

name[i] = s[i];

}

name[size] = NULL;

}

String::String( char \*s, int n)

{

size = length(s);

name = new char[n + 1];

for (int i = 0; i < n; i++)

{

name[i] = s[i];

}

name[n] = NULL;

}

//String::String(int n, char c)// some errors

//{

// String res;

// res.size =this-> size;

// res.name = this->name;

// for (int i = 0; i < res.size; i++)

// {

// if (i < n)

// {

// res.name[i] = c;

// }

// else

// {

// res.name[i] = name[i];

// }

//

// }

//

// res.name[res.size] = NULL;

//

//}

int String::length(char\*n)

{

int count = 0;

char \*ptr = n;

for (int i = 0; n[i] != '\0'; i++)

{

count++;

}

return count;

}

char String::at(int k,char\*c)

{

int sixe = length(c);

for (int i = 0; i < sixe; i++)

{

if (i == k)

{

return this->name[i];

}

}

}

//String String :: substr(int pos, int len)

//{

// if (len > size)

// {

// cout << " Length is greater :" << endl;

// }

// else

// {

// int k = len - pos + 1;

// char \*arr = new char[k + 1];

// int j = 0;

// for (int i = pos; i < len; i++)

// {

// arr[j] = name[i];

// j++;

// }

// arr[j] = '\0';

// delete[] name;

// name = nullptr;

// name = new char[k + 1];

// for (int i = 0; i < k; i++)

// {

// name[i] = arr[i];

// }

// name[k] = '\0';

// delete[] arr;

// arr = nullptr;

// }

// return name;

//}

//main .cpp

#include<iostream>

#include"String.h"

using namespace std;

int main()

{

char a[] = "aneequrrehman";

String obj(a);

cout << obj.length(a) << endl;

String bj1 = obj;

bj1.display();

int pos;

int lenght;

cout << "Enter the pos :";

cin >> pos;

cout << " Enter the length :";

cin >> lenght;

String obj1(obj, pos, lenght);

obj1.display();

cout << " ENter the index character do you want :" << endl;

int ind;

cin >> ind;

String data(obj);

cout << data.at(ind,a) << endl;

int p;

cout << " Enter the character size do you want :";

cin >> p;

String data1(a, p);

data1.display();

/\*String data2;

data2.substr(2, 9);

data2.display();\*/

cout << "heheheheeh" << endl;

system("pause");

return 0;

}