SUBJECT: DEVELOPMENT OF FIELD PROBLEMS IN C++ PROGRAMMING LANGUAGE

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Annotation: C++ program is intended to introduce automatic calculations in solving engineering problems for representatives of the engineering field in the field of IT technology. The working process of the program is shown.

C++ is a programming language based on C, which in turn is derived from B and BCPL. C was derived from B by Dennis Ritchie and was first used in 1972 by Bell Labs on the DEC PDP-11 computer.

C++ was created in the early 1980s by Bjarne Stroustrup based on the C language. C++ has many additions, but the main one is that it allows programming with objects. The C++ programming language allows you to create a wide variety of programs, including operating systems, games, software, software libraries, etc. C++ is run-time efficient and uses resources efficiently.

C++ is supported by many software and hardware platforms and by the general public. C++ also plays an important role in the field of civil engineering in many developed countries around the world. These countries are USA, Japan, Germany, China. etc. In the USA, C++ is widely used in many construction companies, including Bechtel, Flour, and AECOM.

In many construction companies of Japan and Germany, the C++ programming language increases the efficiency of projects. In Chinese companies, where the construction industry is developing rapidly, C++ allows to speed up project processes even more.

If the C++ programming language is widely used in construction companies in Uzbekistan, it will open wide opportunities in the construction sector, and in the future, its further expansion in this field can be observed.

The reason we use it is because the C++ programming language is so efficient that it can run simulations quickly and perform complex calculations, allowing programmers to establish a strong connection between hardware and software.

In conclusion, it can be said that the C++ programming language increases work efficiency in all areas and creates a wide range of possibilities. The C++ programming language is widely used in construction companies, in the implementation of difficult mathematical calculations in the design work, and in software, road and construction modeling software. By further optimizing the C++ programming language, robots used in construction, automated systems creation and management programs can be created.

For example: in C++, a number of areas can be calculated in the program to collect the costs of an apartment with a square meter and a room of 4 m. Examples include materials, energy costs, utilities and locations. The calculations that are taken into account here are the costs for using the apartment to wet it, which is based on specific parameters. For example,

adding energy required for soaking, organizational soaking issues (thermal imager, welder panels and features) or other parameters.

For now, I'll try to write the code to write the program, given a string in the example below. In the code, we calculate the total energy, utility and comfort costs for a 4-room, 111 m^2 home.

In the example:

Total area of the apartment: 111 m^2,

Height: 4 m

Exposure to energy (e.g. for electricity or injury)

```
#include <iostream>
std nom maydonidan foydalanish;
// Funktsiya: Maydonning umumiy hazhmini hhisoblash
float haqidaHajm(float maydon, float joy) {
 qaytish maydon * joy;}
// Funktsiya: Energiya harajatlarini baho
float haqidaXarajat(float hajm) {
 // Masalan, 1 m^3 energiya uchun 0,5 kVt soat zarur deb olamiz
 float energiaBirM3 = 0,5; // kVt soat / m^3
 qaytariladigan hajm * energiaBirM3;}
int main() {
 // Ma'lumotlar
 float maydon = 111; // m^2
 float kattalik = 4; // m
 int xonaSoni = 4; //honalar sony
 // Hisoblash
 float hajm = hajmHajm(maydon, kattalik);
 // Energy harajatlarini aytib
 float xarajat =Xarajat(hajm);
 cout << "Apartment umumiy haajmi: " << hajm << " m^3" << endl;
 cout << "Harajatlari energy: " << xarajat << " kW soat" << endl;
 qaytish 0;}
```

Description:

doubleVolume(): Boo function calculates area and volume of total orcal quartering.

medicalCost(): Boo function calculates energy costs by checking the cost (0.5 kW h of energy received per 1 m^3).

Exit: The program calculates the total cost of area and basic quartering and calculates the associated energy costs.

Longer code models may require the input of Energy, Energy, or other parameters for loss, damping materials, and overhead costs.

If you have any questions about costs or parts, I can help you figure them out.

References:

1.Kadirov M.M. Texnik tizimlarda axborot texnologiyalari. Darslik, 2-qism. -T.:Ozbekiston faylasuflari milliy jamiyati, 2019. -306 b.

2. Dadabayeva R.A., Nasridinova Sh.T., Shoaxmedova N.X., Ibragimova L.T., Ermatov Sh.T. Axborot-kommunikatsiya texnologiyalari va tizimlari. O‘quv qo‘llanma. -T.:Sano-standart, 2017, - 552 b.
3. Kenjabayev A.T., Ikromov M.M., Allanazarov A.Sh. Axborot-kommunikatsiya texnologiyalariyu. O‘quv qo‘llanma. – T.: O’zbekiston faylasuflari milliy jamiyati, 2017. – 408
4. METHODS OF USING MOBILE APPLICATIONS IN THE EDUCATIONAL PROCESS. MK Tashmukhamatovna, JS Alisher o'g'li - Multidisciplinary Journal of Science and Technology, 2023
1.https://www.linuxadictos.com/uz/Microsoft-loyihasiga-4-ta-ochiq-manbali-alternativa.html
2.https://staff.tiiame.uz/storage/users/348/books/XAMaRiysLw24jOrUKs7uMsIlyHmg0XVwpThkUrIA.pdf
3.https://www.freeconference.com/uz/blog/what-are-the-5-stages-of-project-management