

C++ BASED CODE BLOCK IN THE PREDICTION OF NUTRITION NEEDS ON THE HUMAN BODY

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ABSTRACT

Nutrition is probably not something that has just been heard by us, nutrition is a component that is closely related to the survival of living things. Intake of food consumed every day as an effort to preserve the life of living things. In this study the language used was C++ Programming Language Based on CodeBlock. The results of this study are predictions of nutritional needs in the human body using C++ programming language based on codeblock more efficient and efektif.

1. INRODUCTION

1.1 Background

Humans are creatures that are created the most perfect because they are able to function more than animals and plants, such as examples can be free to move and have a mind.

So for that all humans need adequate food intake and should be in accordance with nutrition levels.

Nutrition is an organic substance that is needed by organisms to perform normal functions of the body's system, growth, and maintenance of health. Research in the field of nutrition studies the relationship between food and drink to health and disease, especially in determining the

optimal diet.

If the human body gets adequate nutrition or nutrition, it can be ascertained that the metabolism in the body runs smoothly so that the functions of other organs can work optimally, and of course it will not be susceptible to viruses and bacteria.

1.2 Formulation of the problem

How to find out how much nutrient intake someone needs for his body in one programming using the existing calculation formula.

1.3 Purpose

1. The purpose of this study is to complete the project assignments at the end of

semester 1 from Algorithm & Programming lesson.

2. And as a form of implementation of the material that has been given.
3. And aims also to help predict the nutritional needs needed by the human body.

1.4 Benefits

1. Complete the final project assignment given.
2. Able to understand what has been done.
3. Can help the community to predict the nutritional needs needed by the body in accordance with existing health standards.

2. LITERATURE REVIEW

2.1 Relative Research

There are related studies regarding nutrition and nutritional needs for one's body:

Sari Purwaningrum and Yuniar Wardani, 2007 "The relationship between food intake and family nutrition awareness status with nutritional status of children in the work area of Sewon I Bantul Health Center"

In this study, it is known that there are several factors that can

influence the Family Nutrition Awareness (KGK) status of a family which then indirectly affects the nutritional status of the children under study, these factors include respondent education, respondent's income, and the number of respondent families .

Myckel B. Mainake, 2012 "The relationship between the level of energy intake and the nutritional status of the elderly in west Mapanget village of Mapanget subdistrict, Manado city"

The results of the analysis using the Spearman correlation test with a significance level of 95% ($\alpha = 0.05$) showed that the level of energy intake had a significant relationship with the nutritional status of the elderly ($\rho = 0.004$) with an average energy intake of 1724.2 kcal.

Evan Reger and Rini Sekartini, 2012 "Relationship between the adequacy of energy intake and macronutrients with nutritional status of children aged 5-7 years in Kampung Melayu Village, East Jakarta in 2012"

In this study the results achieved

there is a relationship between the adequacy of protein intake with index bb / u and tb / u , but there is no correlation between the adequacy of energy, fat and carbohydrate intake with index bb / u and tb / u "

Toni Subarkah, Nursalam, and Praba Diyan Rachmawati, 2016 "Feeding Pattern Toward the Increasing of Nutritional Status in Children Aged 1–3 Years"

Based on the results of this study indicate that the feeding pattern is related to the nutritional status of children aged 1-3 years. The pattern of feeding right most have normal nutritional status and improper feeding patterns most have nutritional status that is very thin and thin.

2.2 Theoretical basis

Need is everything that is needed by humans to maintain life and to obtain welfare and comfort. Or needs are one of the psychological aspects that move living things in their activities.

Nutrition is an organic substance that is needed by the organism for normal functioning of the body's system, growth, maintenance of health.

Language `c ++` is an object-oriented programming language to solve problems.

Code `:: block` is a free, non-profit, open source and cross platform integrated development environment program.

3. RESEARCH METHODS

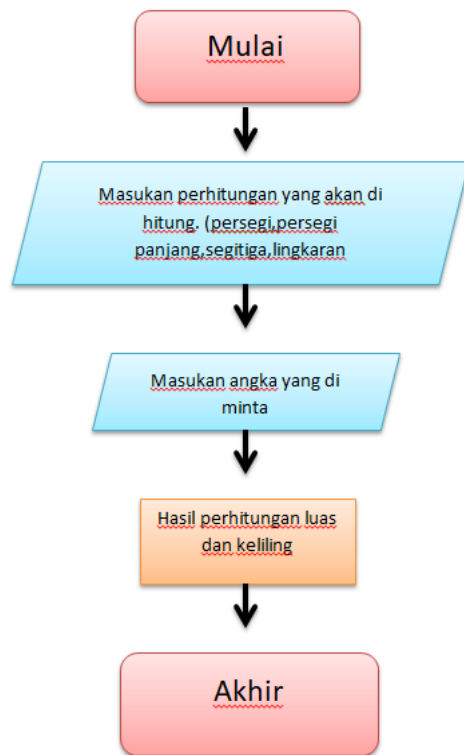
The stages in this study are as follows:

- a. Data collection
- b. Grouping
- c. Experiment
- d. Research testing
- e. Research evaluation

The method proposed in this study is Programming C ++ Language Based on CodeBlock to predict the nutrition requirements needed by the body.

Following are the steps in this study:

1. Calculate the formula for the nutritional needs needed by the body.
2. Enter the data you want to know according to the existing formula.
3. To calculate the nutritional needs needed, the input data such as gender, height, weight, and age.



Flowchart System

4. RESULTS AND DISCUSSION

The data used in this research experiment is SYIFA FAUZIAH data:

Table 4.1 Datasheet

Gender	Height	Weight	Age
Woman	150	48	18

The following steps are used to predict the nutritional / nutritional requirements needed by the body:

A. Calculating energy requirements:

- $e = 655 + (9.6 * bb) + (1.8 * tb) - (4.7 * u)$
- $e = 655 + (9.6 * 48) + (1.8 * 150) - (4.7 * 18)$

$$3. e = 655 + (460.8) + (270) - (84.6)$$

$$4. e = 1301.2$$

B. Calculating protein requirements:

$$1. p = 0.15 * e$$

$$2. p = 0.15 * 1301.2$$

$$3. p = 195.18$$

C. calculating fat requirements:

$$1. l = 0.25 * e$$

$$2. l = 0.25 * 1301.2$$

$$3. l = 325.3$$

The following is a program of calculating nutrients that the body needs:

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}
else
{
    cout<<"inputan salah";
    cout<<"\nTekan sembarang tombol...";
    getch();
}
}
break;

case 2:
system("cls");
{
    float bb,tb,u,e,p,l;
    int input;

    cout<<"Program Menghitung Kebutuhan Gizi\n";
    cout<<"[1] PRIA\n";
    cout<<"[2] WANITA\n";
    cout<<"pilih [1]/[2]?";
    cin>>input;
  
```

Picture 4.1 coding predictions of nutritional needs

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if(input==1)
{
    cout<<"Kebutuhan Energi Pria\n";
    cout<<"Masukan Tinggi Badan(cm)=";
    cin>>tb;
    cout<<"masukan berat badan(kg)=";
    cin>>bb;
    cout<<"masukan umur (tahun)=";
    cin>>u;
    e=66+(13.7*bb)+(5*tb)-(6.8*u);
    cout<<"\nKebutuhan Energi Anda=";
    cout<<e;
    cout<<"kkal";
    p=0.15*e;
    cout<<"\nKebutuhan Protein Anda=";
    cout<<p;
    cout<<"kkal";
    l=0.25*e;
    cout<<"\nKebutuhan Lemak Anda=";
    cout<<l;
    cout<<"kkal";
    cout<<"\nTekan sembarang tombol...";
    getch();
  
```

Picture 4.2 coding predictions of nutritional needs

```

180         }
181         else
182         {
183             if(input==2)
184             {
185                 cout<<"Kebutuhan Energi Wanita\n";
186                 cout<<"Masukan Tinggi Badan (cm)=";
187                 cin>>tb;
188                 cout<<"Masukan Berat Badan (kg)=";
189                 cin>>bb;
190                 cout<<"Masukan Umur (tahun)=";
191                 cin>>u;
192                 e=655+(9.6*bb)+(1.8*tb)-(4.7*u);
193                 cout<<"\nKebutuhan Energi Anda=";
194                 cout<<e;
195                 cout<<"kkal";
196                 p=0.15*e;
197                 cout<<"\nKebutuhan Protein Anda=";
198                 cout<<p;
199                 cout<<"kkal";
200                 l=0.25*e;
201                 cout<<"\nKebutuhan Lemak Anda=";
202                 cout<<l;
203                 cout<<"kkal";
204                 cout<<"\n\nTekan Sembarang Tombol...";
205                 getch();

```

Picture 4.3 coding predictions of nutritional needs

```

206         }
207         else
208         {
209             cout<<"inputan salah";
210             cout<<"\n\nTekan sembarang tombol...";
211             getch();
212         }
213     }
214     break;
215 }
216

```

Picture 4.4 coding predictions of nutritional needs

The following are compiling results from a prediction program nutritional needs in the human body using code :: block by running the program and then entering the text according to has been specified:

```

Program Menghitung Kebutuhan Gizi
[1] PRIA
[2] WANITA
pilih [1]/[2]?2
Kebutuhan Energi Wanita
Masukan Tinggi Badan (cm)=150
Masukan Berat Badan (kg)=48
Masukan Umur (tahun)=18

Kebutuhan Energi Anda=1301.2kkal
Kebutuhan Protein Anda=195.18kkal
Kebutuhan Lemak Anda=325.3kkal

Tekan Sembarang Tombol...

```

Picture 4.5 Comphiling of nutritional

5. COVER

a. Conclusion

Based on the above research using the C ++ programming language based code :: block can be used to predict the nutritional requirements needed by a person's body in order to increase the culture of healthy living by consuming food intake which is in accordance with is wha needed by the body with effective and efficient calculations.

b. Suggestion

To get more accurate calculation results, additional data is needed such as what activities are carried out, because heavy activity certainly requires more nutrition.

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Purwaningrum Sari, Yuniar Wardani (2007) "The relationship between food intake and family nutrition awareness status with nutritional status of children in the work area of Sewon I Bantul Health Center "

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Subarkah Toni, Nursalam, Praba Diyan Rachmawat (2016), "Feeding Pattern Toward the Increasing of Nutritional Status in Children Aged 1–3 Years"

Regar Evan and Rini Sekartini (2012) "Relationship between Adequacy of Energy Intake and Macronutrients with Nutritional Status for Children Aged 5-7 Years in Kampung Melayu Village, East Jakarta" in 2012

<http://katakbisik.blogspot.com/2017/07/program-menghitung-berat-dan-tinggi.html>

<https://id.wikipedia.org/wiki/Nutrition>