Quest Journals
Journal of Research in Mechanical Engineering
Volume 3 ~ Issue 5 (2017) pp: 25-33
ISSN(Online) : 2321-8185
www.questjournals.org

Research Paper

Application of Binary And Hexadesimal Conversion Conservation in Motif Design Weaving

[*]Sarmidi Stmikdci[1],Sutarman Stmik Triguna Utama[2],
Dede Farhan Aulawi Stmik Triguna Utama[3]
[1]kp. Tanjungsari Rt/Rw 02/01 Kel.Suakanagara Kec. Purbaratu Kota Tasikmalaya
[2]jl. M. Thamrin Komplek Mahkota Mas Blok E 28 -30 Cikokol Tangerang
Corresponding Author: [*]Sarmidi Stmikdci

Received 05 August, 2017; **A**ccepted 23 AUgust, 2017 © The author(s) 2017. **P**ublished with open access at **www.questjournals.org**

ABSTRACT: *Motifs woven in Indonesia dozesns even hundreds of motifs for each location In addition, these motifs have a diversity that can not be separated from the background history and culture of Indonesia . Any element of tradition and customs often make motifs have meaning philosophy. As with the nut on the stem motif Minangkabau songket parable meaning noble human nature , which is straight and honest nature. Design and manufacture of fabrics that have a motif requires a process of very difficult if done using traditional weaving machine tools and manuals . In addition to requiring specific skills in using the manual loom , loom manuals were difficult to obtain. In the computer world we recognize four types of numbers , ie say binary , octal , decimal and hexadecimal . These four numbers were related to one another . Formula or how to find it quite easy to learn. Conversion from decimal to a non - decimal , just look for the rest of the division alone .*

Keyword: *Binary, Data, Hexadecimal. Weaving motif*

I. INTRODUCTION

Motif woven fabric in Indonesia, definitely no ending. There are many producers in different regions with distinctive motives. Not just one, two pieces, but even tens and hundreds of motifs for each location. In addition, these motifs have a diversity that can not be separated from the historical and cultural background of the Indonesian nation. The existence of elements of tradition and customs often make the motive has a philosophical meaning. Just as in the motifs of the areca nut on the Minangkabau songket which contains the meaning of the parable of the noble nature of man, ie straight and honest nature. And many more batik motifs that store a wealth of philosophical meaning that adds to the richness of Indonesian culture.The design and manufacture of fabric that has a motive requires a very difficult workmanship process if done using traditional weaving machine tools and manuals. In addition to requiring special skills in using the manual loom, manual loom was difficult to obtain. On this occasion, the author will try to make a tool that can make motif design tools on the fabric by using computerized tools. This certainly requires hardware that must be prepared as a loom. Because the weaving design is weaving, it means that there is a yarn position on top and yarn position below, then the tool must read data in the form of binary number data or can be shortened into Hexadecimal number.

In the computer world we recognize four types of numbers, namely say binary, octal, decimal and hexadecimal. Binary number or binary digit (bit) is a number consisting of 1 and 0. octal number consists of 0,1,2,3,4,5,6 and 7. While the decimal number consists of 0,1,2,3, 4,5,6,7,8 and 9. And hexadecimal numbers consist of 0,1,2,3,4,5,6,7,8,9, A, B, C, D, E and F.Already known, in computer language there are four number bases. The four numbers are binary, octal, decimal and hexadecimal. The four numbers are related to each other. The formula or how to find it is easy enough to learn. Converting from decimal to non-decimal, just looking for the rest of the division only. And the conversion from non-decimal to decimal is:

1. Multiplying the number by its base number.2. Any number of units of value, calculated by the power of ZERO (0). Digits of tens, with the rank of ONE (1), as well as hundreds of digits, thousands, and so on. The rank value always increases one point.In making this application the author can not get to the maximum stage that is up to the making of these looms. So the author tries to design and create an application that can generate

binary and Hexadecimal number data which will then be used as a reference data weaving for the tool. From the background of the problem then the authors are interested to create an application titled "Application Data Generator Binary And Hexadesimal On Motif Design Weaving". With this application is expected to assist in the process to be able to continue to the next stage, which is connected with a special device as a loom that is computerized.

II. FORMULATION OF PROBLEMS

1. What is a Binary Conversion App?
2. How to Hexsa Decimal?
3. How to design the weaving motif?

III. WRITING PURPOSE

The aims and objectives of this study are:
1. Want to understand more from Binary conversion app
2. Want to show how to use Hexsa Decimal is good and correct
3. Make Designs on the motive Weaving the superior, quality, by lifting Motif areas in Indonesia.

IV. DISCUSSION

A. Motif Design Weaving

1. Weaving

Weaving is the work of fabric made with yarn and put into the feed on a tool called warp. And weaving is still subdivided into songket, which is woven with gold or silver thread, then there is bunch, double bond, and feed. The value of Indonesia-an is indeed one of the points that need to be noticed by today's woven fabric. This is related to some design grip that should not change when constructed.

2. Motif Weaving

Speaking of woven fabric motif in Indonesia, definitely no end. There are many producers in different regions with distinctive motives. Not just one, two pieces, but even tens and hundreds of motifs for each location. In addition, these motifs have a diversity that can not be separated from the historical and cultural background of the Indonesian nation. The existence of elements of tradition and customs often make the motive has maknafilosofi. Just as in the motifs of the areca nut on the Minangkabau songket which contains the meaning of the parable of the noble nature of man, ie straight and honest nature. And many more batik motifs that store a wealth of philosophical meaning that adds to the richness of Indonesian culture.

3. Number Format

In the computer world we recognize four types of numbers, namely say binary, octal, decimal and hexadecimal. Binary number or binary digit (bit) is a number consisting of 1 and 0. The octal number consists of 0.1,2,3,4,5,6 and 7. While the decimal number consists of 0,1,2,3,4,5,6,7,8 and 9. And the hexadecimal number consists of 0,1,2,3,4,5,6,7,8,9, A, B, C, D, E and F.

Table Number Format

Biner	Octal	Decimal	Hexadecimal
0000	0	0	0
0001	1	1	1
0010	2	2	2
0011	3	3	3
0100	4	4	4
0101	5	5	5
0110	6	6	6
0111	7	7	7
1000	10	8	8
1001	11	9	9
1010	12	10	A
1011	13	11	B
1100	14	12	C
1101	15	13	D
1110	16	14	E
1111	17	15	F

A. Conversion Between Numbers

Already known, in computer language there are four number bases. The four numbers are binary, octal, decimal and hexadecimal. The four numbers are related to each other. The formula or how to find it is easy enough to learn. Converting from decimal to non-decimal, just looking for the rest of the division only.
And the conversion from non-decimal to decimal is:
- Multiply the number by its base number.
- Any number of units worth, counted with the ZERO (0). Digits dozens, with the ONE rank (1), so do the hundreds, thousands, and so on. The rank value always increases one point.

1. Converting Binary to Octal

The conversion method is almost the same. Only, because the grouping is based on 3 bits only, then the result is: 1010 (2) = ... (8) Solution: Take the last three digits first. 010 (2) = 2 (8) While the remaining one last digit remains 1. The end result is: 12.

2. Convert Binary to Hexsadecimal

Conversion method is similar to Binary to Octal. But the grouping is 4 bits. The four rightmost bit bits are the unit positions, the second four bits of the right are tens, and so on. Example: 11100011 (2) = .. (16) Solution: right most bit group: 0011 = 3 next bit group: 1110 = E Conversion result is: E3 (16)
3. Converting Binary to Decimal This way or method is slightly different. Example: 10110 (2) = ... (10) is decomposed into: (1x24) + (0x23) + (1x22) + (1x21) + (0x20) = 16 + 0 + 4 + 2 + 0 = 22 The number 2 in the multiplication is its binary base. While the rank is sequential, indicates the rank of 0 is the unit, the first rank is tens, and so on.

1. Converting Octal to Binary

Actually, for this base conversion, it should be a bit memorize the main conversion table located on the top page. But it can be learned easily. And take three binaries only. Example: 523 (8) = ... (2) Solution: By looking at the main table, the result is: 3 = 011 2 = 010 5 = 101 Numbering is still based on the unit positions, tens and hundreds. Result: 101010011 (2)

2. Hexadecimal Conversion to Binary

The methods and methods are similar to the Octal to Binary conversions. Only two bits are grouped. As in the main table. Example: 2A (16) = ... (2)
Solution:
• A = 1010,
• 2 = 0010
How: A = 10
• 10: 2 = 5 (0) remaining
• 5: 2 = 2 (1)
• 2: 2 = 1 (0)
• 1: 2 = 0 (1)
Written from the final result: 1010
• 2: 2 = 1 (0) residual
• 1: 2 = 0 (1)

Written from the final result: 010 so results and writing 0101010 as a note 0 at the beginning does not need to write.

3. Conversion Decimal to Hexadecimal

There are ways and methods, but for some people still somewhat confusing. The easiest way is, convert from decimal to binary first, then convert from binary to hexadecimal. Example: 75 (10) = ... (16) Solution: 75 divided by 16 = 4 remaining 11 (11 = B). And the conversion result: 4B (16)
4. Hexadecimal Conversion to Decimal
The trick is almost the same as conversion from binary to decimal. However, the base number is 16. Example: 4B (16) = ... (10) Solution: By reference to the main table, B can be written with the value "11". (4x161) + (11x160) = 64 + 11 = 75 (10)
5. Decimal to Octal Conversion
The trick is almost the same as decimal to hexadecimal conversion. Example: 25 (10) = ... (8) Solution: 25 divided by 8 = 3 remaining 1. The result can be written: 31 (8)
25: 8 remaining 1 3 -------- 3 result is 31
6. Convert Octal to Decimal

The method is almost the same as the hexadecimal to decimal conversion. Can be followed by the example below: 764 (8) = ... (10) Solution: (3x81) + (1x80) = 24 + 1 = 25 (10)

SYSTEM PLANNING

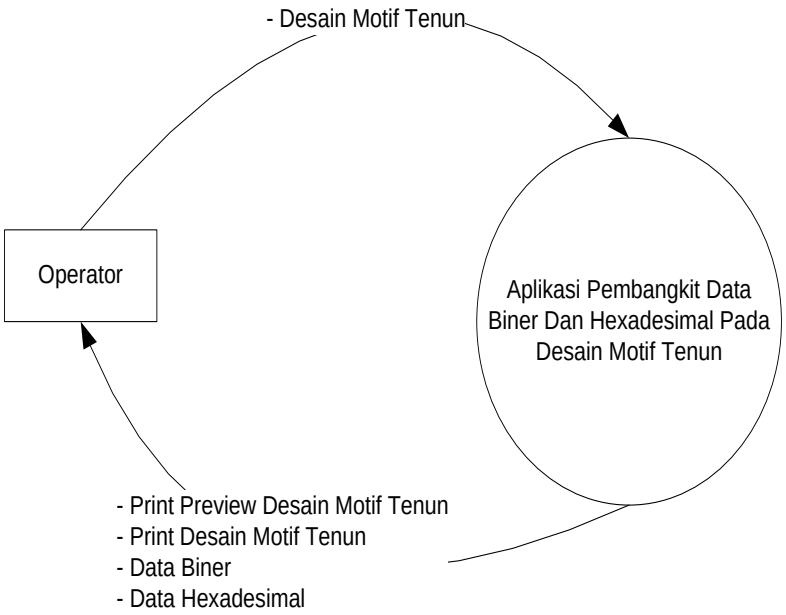
The design of the system made by the authors are as follows:

A. The Design of Information Flow Chart

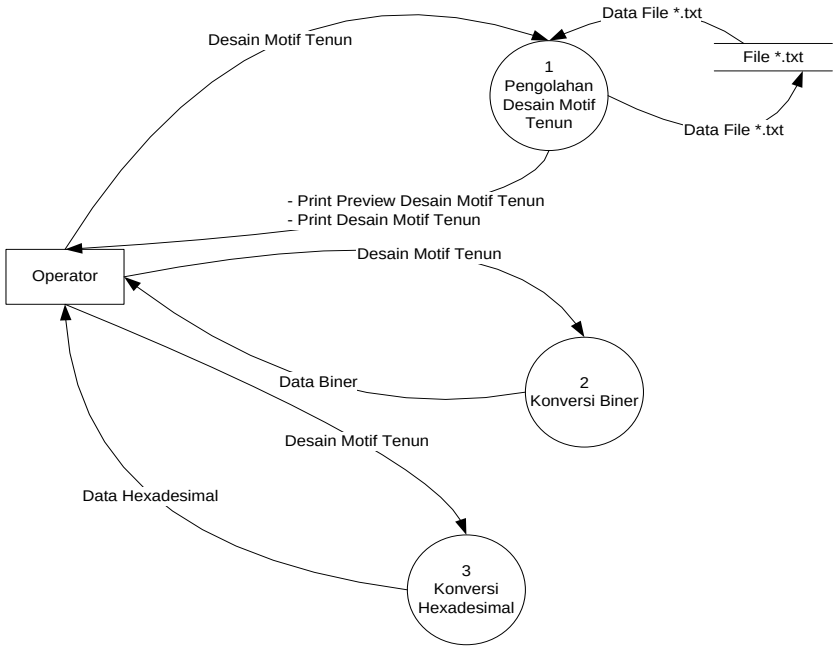
Data Flow Diagram (DFD) is a tool that can describe the system completely and clearly, both existing systems and systems that are still in the design. Data Flow Diagram (DFD) This describes the flow of data, process information, databases and sources of data destination performed by the system.

The level or level of Data Flow Diagram (DFD) starts from the Context Diagram, which describes and describes the general system that consists of several external entities that provide input into the system. The context diagram will be parsed into several existing processes in the system so as to produce a more detailed description of the system in level n. The design of Data Flow Diagrams (DFD) in the system that compilers create is as follows:

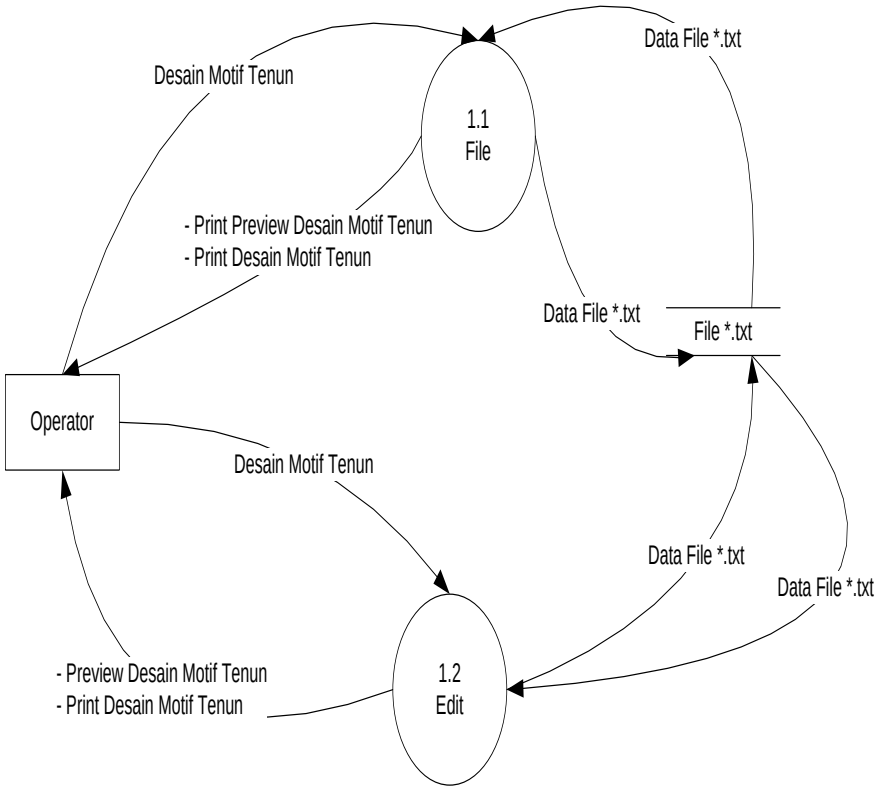
1. Context Diagram



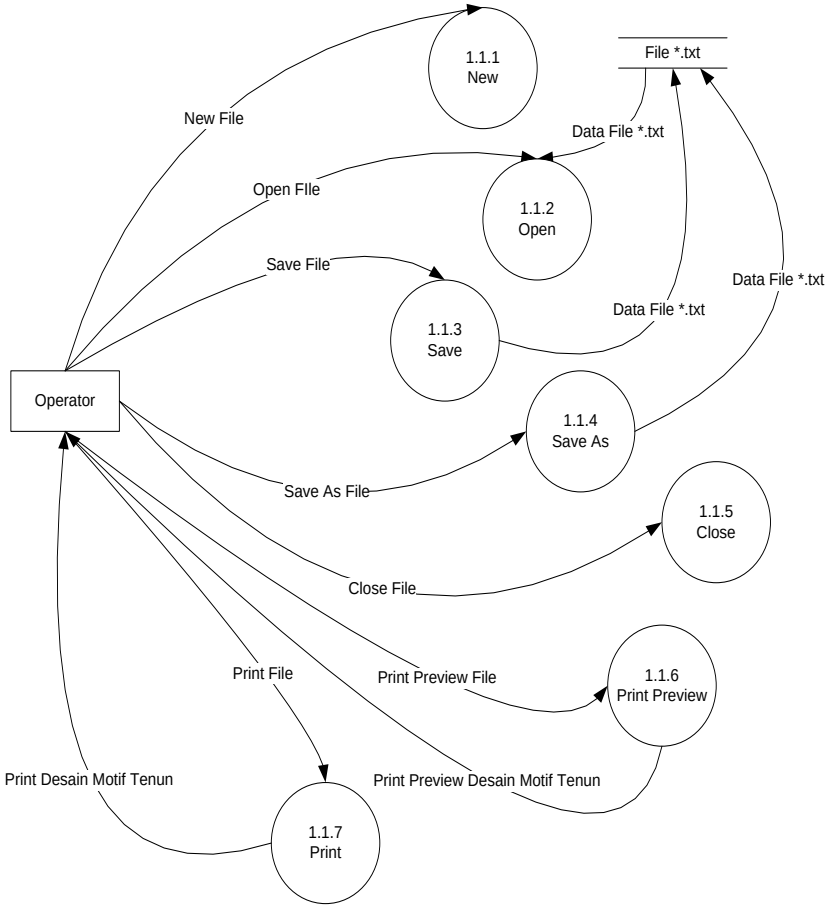
1. DFD Level 1 of Context Diagram Application Binary Data And Hexadecimal Applications On Motif Design Weaving



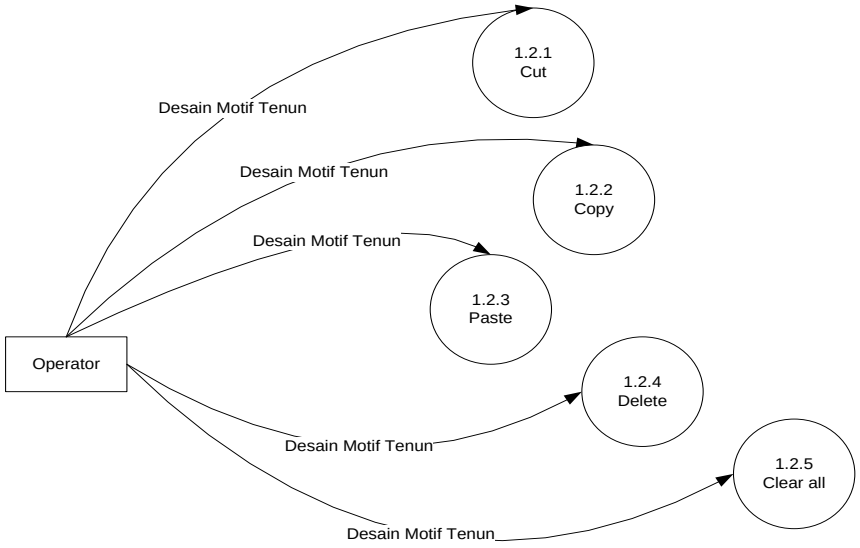
1. DFD Level 1 of Process 1 Processing Motif Weaving Design



1. DFD Level 1 of Process 1.1 File



1. DFD Level 1 of ProcessEdit



A. Data File Design

The design of this data file is used to store the design data of motif weaving into the form of file with extension *. Txt. The data stored in this file is a collection and a row of binary numbers is a series of numbers between 0 and 1.

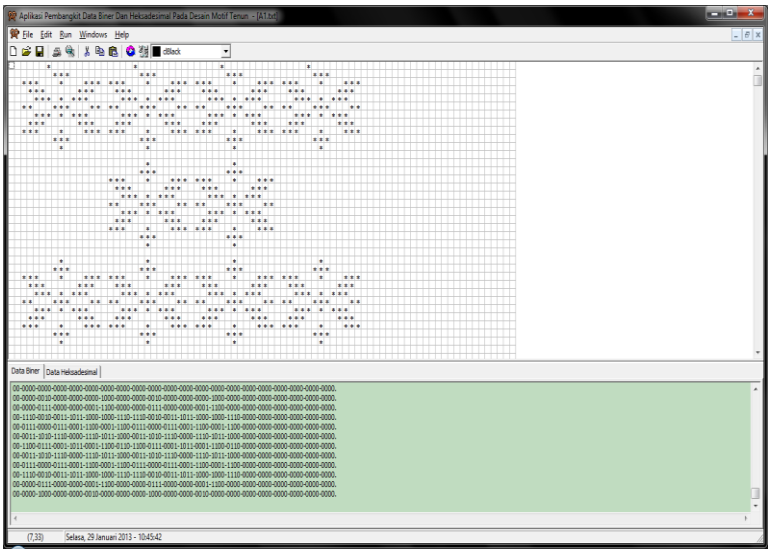
Examples of the design of the design file motive weaving is as follows:

00000010000000000000100000000000001000000000000010000000000000000000000000000000.
00000111000000000000111000000000001110000000000011100000000000000000000000000000.
11100010001110111000100011101110001000111011100010001110000000000000000000000000.
01110000011100011100000111000111000001110001110000011100000000000000000000000000.

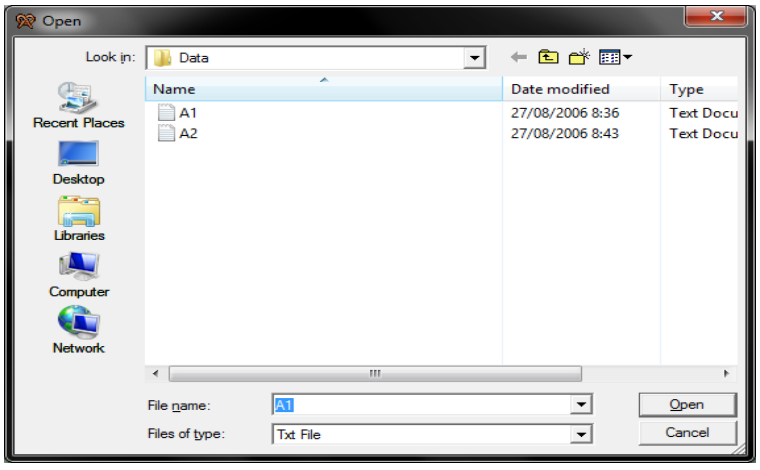
00111010111000001110101110000011101011100000111010111000000000000000000000000000000.
11000111000110110001110001101100011100011011000111000110000000000000000000000000000.
00111010111000001110101110000011101011100000111010111000000000000000000000000000000.
01110000011100011100000111000111000001110001110000011100000000000000000000000000000.
11100010001110111000100011101110001000111011100010001110000000000000000000000000000.
00000111000000000001110000000000011100000000000111000000000000000000000000000000000.

After performing the process of data identification, system analysis and design of applications to be made, then the following are some display form which is the interaction of the program from Application Data Binary And Hexadecimal In Motif Design Weaving, are as follows:

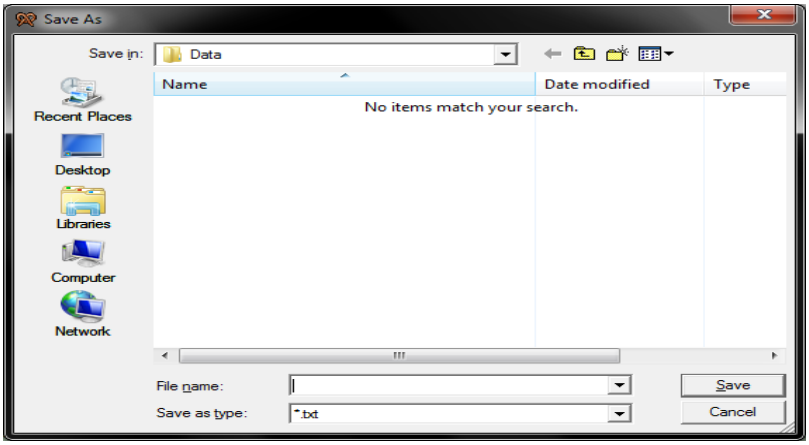
1. Main Menu Form



Form Open Dialog

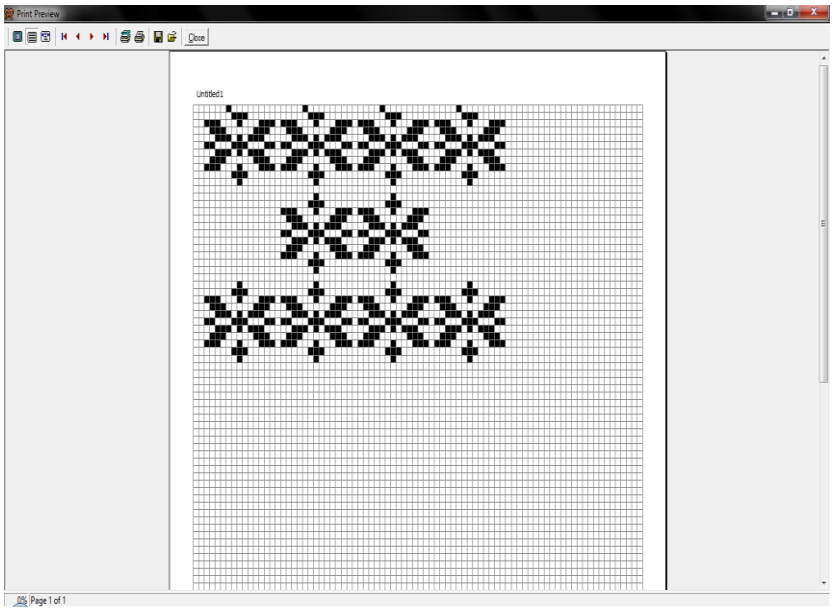


Form SaveAs Dialog



3. Print Display Data Design Motif Weaving

Here is a sample display of motive woven design that is implemented in making the application that the author made, is as follows :



V. CONCLUSION

The conclusions of this paper are taken based on the results of the analysis, design and implementation of the program that the author has made in the previous chapter. As for some conclusions that writers can convey among others are as follows:

1. This application can perform the conversion process from design weaving motive data to binary number form can then be converted also into form of Hexadecimal number;

2. This application can only make the design of simple weave motif design, can not make the design of motif weaving with a more complex motive, This application can not be implemented further into the device that can serve as a tool for designing computerized weaving motifs.

3. This application can process the data in the form of design motif weaving in the form of design, storage of motif design data, calling design motif data that has been stored in the file. Txt, delete design data, copy paste and clear all designs and produce design view weaving motifs and can do Printing the design motive of the weaving.

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About the Author

[6]. Sarmidi Born in Grobogan, May 8, 1972, Education is taking S3 at Uninus Bandung, S2 Magister Computer STMIK Eresha Jakarta, S1 S.Kom STMIK Muhammadaiyah Jakarta. Lecturer at STMIK DCI Tasikmalaya.

[7]. Sutarman born in Bandung, Mei 10, 1964. Education S3 Islam Nusantara Univercity, S2 STIMA IMMI Master of Mannagement, S1 Achmad Yani Univercity and STMIK Triguna Utama, Lecturer STKIP SERA

[8]. Dede Farhan Aulawi born in Tasikmalaya, 27 april 1970, Polman ITB DIII, S1 Industrial of Engineering Ahmad Yani Univercity and STIE Pelita Bangsa, S2 Master of Managemant STIMA IMMI, Lecturer Politeknik Bandung, STMIK Triguna Utama

*Sarmidi Stmikdci. "Application of Binary And Hexadesimal Conversion Conservation in Motif Design Weaving." Quest Journals Journal of Research in Mechanical Engineering , vol. 03, no. 05, 2017, pp. 25–33.