Basic Pratice of Programming Jobsheet 2

From:

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Class:

1 I

Absence:

01

Major:

Information Technology

Study Program:

Informatic Engineering

Experiment 1: Complete Case Study On Sequence

Question !

1. Mention sequentially what you do after college like experiment 1 question-1!

2. Rewrite and complete the algorithm in Experiment 1 No. 2!

3. Calculate mathematically the results of experiment 1 problem 3! What is the result?

4. If there is additional information as follows "Mr. Ahmad wants to plant a circular rose in the middle of his land. Pak Ahmad wants to maximize his land so that as much as possible there are only a few vacant lands. What is the area of Mr. Ahmad's land planted with Mawar flowers? " Rewrite the steps for making the correct algorithm!

5. After additional data about question 4, what is the area of Mr. Ahmad's land that is not planted with roses?

Answer

1. What I do after college.
   - After leave the class, I will go down the building using elevator.
   - Then go to parking lot to pickup the motorcycle.
   - If it rain, I will use the raincoat while driving. And then if it bright, I will driving without using raincoat.
   - After arrived at home I clean my body.
2. Algorithm :
   - From the start the frog jumps in the 0 direction.
   - Then jump again in the 0 direction.
   - Then the frog turns to the lily pad in the 6 direction.
   - Then the frog jumps down to the lily pad in the 6 direction.
   - Then the frog jumps again in the 6 direction.
   - Then the frog jumps to the lily pad in the 4 direction.
   - Then jump again in the 4 direction.
   - Then the frog jumps to the lily pad in the 2 direction.
   - Then jump again in the 2 direction.
   - Then the frog jumps to the lily pad in the 4 direction.
   - Then jump again in the 4 direction.
   - Then the frog jumps to the lily pad in the 1 direction and finish.
3. Calculate:
   - Periphery land = 64 m
   - Side 64 / 4 = 16m
   - Land area = 16 * 16 = 256m ** 2.
4. Input : Side area of Mr Ahmad's land.
   Process :
   - Find out known data.
   - Side square 16m and radius circle 8m.
   - Search for land area circle.

- Land area circle 3,14 * 8 * 8 = 200,96m**2.

Output : Land area of Mr. Ahmad's land planted with rose flowers.

5. Input : Side area of Mr Ahmad's land.
   Process :
   - Find out known data.
   - Side square 16m and radius circle 8m.
   - Search for land area square and circle.
   - Land area square 16 * 16 = 256m**2 and the circle 3,14 * 8 * 8 = 200,96m**2.
   - Land area square and circle be subtracted.
   - The result is 256 – 200,96 = 55,04 m**2.

   Output : Land area of Mr. Ahmad's land not planted with rose flowers.

Experiment 2: Complete a Case Study About Selection

Question !

1. Rewrite and complete the algorithm in experiment 2!

2. Write the algorithm of the regulation SP1, SP2, and SP3 at JTI Polinema as you know!

Answer

1. Input : River, River connectivity information
   Process :
   - Beaver is in the middle of several river meetings. He can swim from the river B / D / E / F / G.
   - If starting from B then the track that can be traversed by choosing river A or C.
   - If it crosses river A, then:
     - River A continues to river D.
     - From D has the option to E / F / G river. If you choose F or G then it is possibility that one river must be crossed more than once. Then the river E was chosen.
     - From E, proceed to the connected and have same direction river, river H.
     - From the river H continued to the river that is connected and have same direction, there are F-G-C.
     - So the path Beaver goes through is B-C-G-F-H-E-D-A (output).
   - If it starts from D then the track that can be traversed is river A.
     Then the track that can be traversed by choosing river B or C.
     If it crosses river C, then:
     - River C continues to river G.
     - From G has continued to middle of several river.
     - From middle of several river has the option to F or E river. Then the river F was chosen.
     - From F, proceed to the connected and have same direction river, river H.
     - From the river H continued to the river that is connected and have same direction, there are E-B.
     - So the path Beaver goes through is D-A-C-G-F-H-E-B (output).

- If starting from E then the track that can be traversed is river H then continued to river F. From F has continued to middle of several river.
  Then the track that can be traversed by choosing river D / B / G.
  If it crosses river G, then:
    - River G continues to river C.
    - From C has the option to A or B river. Then the river A was chosen.
    - From A, continues to river D.
    - From D has continued to middle of several river.
    - And then the last river is B.
    - So the path Beaver goes through is E-H-F-G-C-A-D-B (output).
- If starting from F then the track that can be traversed is river H then continued to river E. From E has continued to middle of several river.
  Then the track that can be traversed by choosing river D / B / G.
  If it crosses river G, then:
    - River G continues to river C.
    - From C has the option to A or B river. Then the river A was chosen.
    - From A, continues to river D.
    - From D has continued to middle of several river.
    - And then the last river is B.
    - So the path Beaver goes through is F-H-E-G-C-A-D-B (output
- If starting from G then the track that can be traversed is river C.
  Then the track that can be traversed by choosing river A or B.
  If it crosses river A, then:
    - River A continues to river D.
    - From D has continued to middle of several river.
    - From middle of several river has the option to B / F / E river. If you choose B then it is possibility that one river must be crossed more than once. Then the river E was chosen.
    - From E, proceed to the connected and have same direction river, river H.
    - From the river H continued to the river that is connected and have same direction, there are F-B.
    - So the path Beaver goes through is G-C-A-D-E-H-F-B(output).

  Output : Path of the entire river

2. Input : Regulations of sp1, sp2, sp3.
   Process :
   - Not attending class > = 18 hours will get sp1.
   - Not attending class > = 36 hours will get sp2.
   - Not attending class > = 48 hours will get sp3.

   Output : Hour to get sp1, sp2, sp3.

Experiment 3: Complete a Case Study of Repetition

Question!

1. Mention the position that was detected wrongly in experiment 3 questions 2!

2. Mention 5 activities that use the concept of repetition/looping that you have encountered!

Answer!

1. The position that was detected wrongly is [4,3], which should [3,4].
2. 5 activities that use the concept of repetition/looping :
   - **Button up clothes.**
   - **Breathe.**
   - **Ironing clothes.**
   - **Sweep.**
   - **Mop.**

4. Assignment

Answer

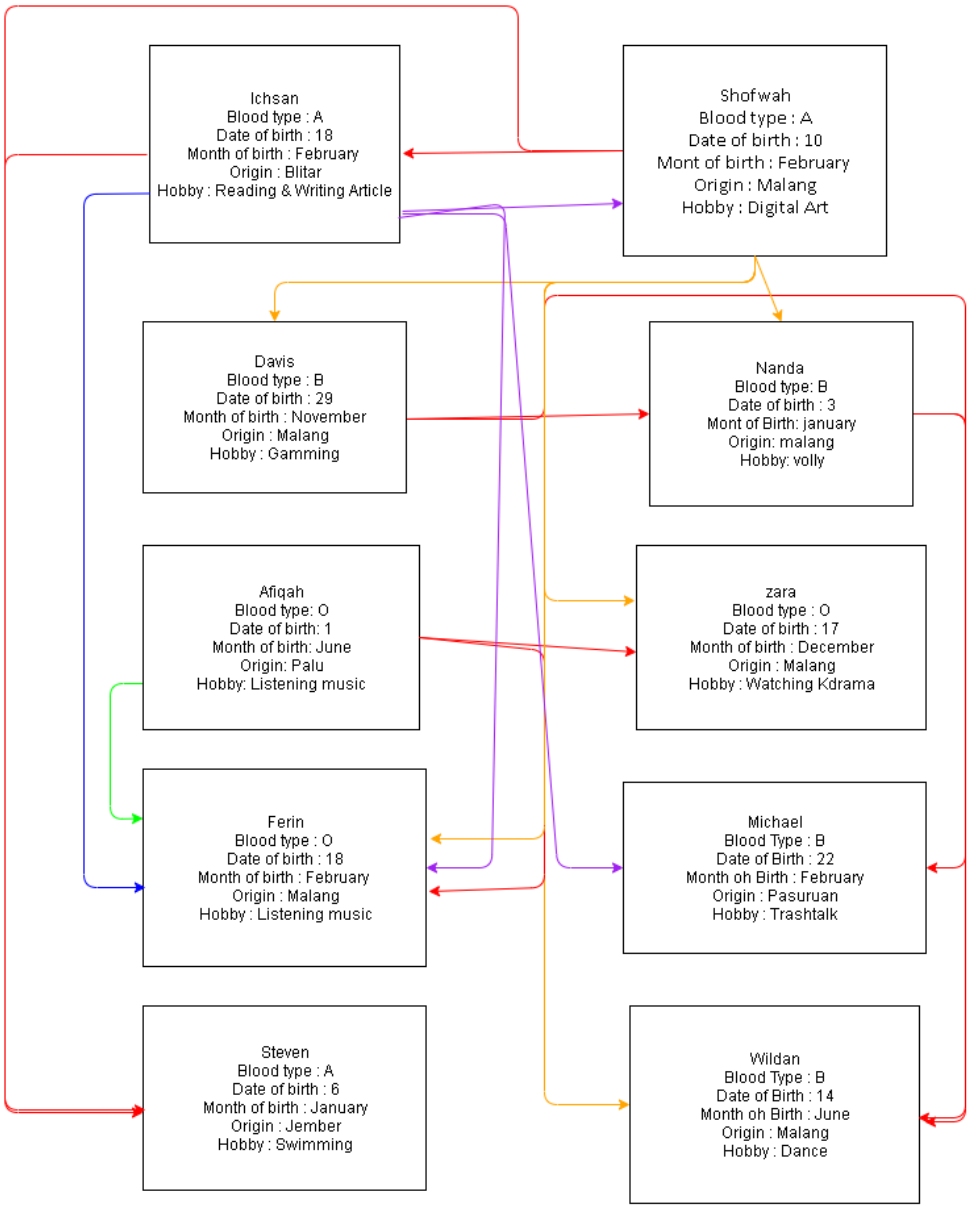
1. **Algorithm :**
   - **First, paste the stamps 6.**
   - **Then paste the stamps 2.**
   - **Then paste the stamps 5.**
   - **Then paste the stamps 4.**
   - **Then paste the stamps 3.**
   - **And last paste the stamps 1.**
   - **Finish.**
2. **Algorithm :**
   Input : wheel, body, handlebar, saddle
   Process :
   - **First, prepare the wheel.**
   - **And then we have 2 choices of color body which is yellow and blue.**
   - **If pair with yellow body :**
     - **we have 2 choices of color handlebar which is red and grey.**
     - **If pair with red handlebar :**
       - **we have 2 choices of color saddle which is orange and yellow.**
       - **Pair saddle with orange or yellow color.**
     - **And if pair with grey handlebar :**
       - **we have 2 choices of color saddle which is purple and dark grey.**
       - **Pair saddle with purple or dark grey color.**
   - **And if pair with blue body :**
     - **we have 2 choices of color handlebar which is green and grey.**
     - **If pair with green handlebar :**
       - **we have 2 choices of color saddle which is dark grey and black.**
       - **Pair saddle with dark grey or black color.**

        - **And if pair with grey handlebar :**
            - **Pair saddle with purple color.**
    - **Finish.**

    Output : Bicycle.

    - **The bike are unsuitable is B.**

3. **Image :**



1. **Nanda, Davis, Michael, Wildan**
2. **No one, because my month birth is August.**
3. **No one, because my birth date is 24.**
4. **No one, because I from Surabaya.**
5. **Ichsan and Steven, because my hobby is reading and swimming.**

4. **Input :price every 1kg Rp4.500, ani 4kg, budi 15kg, bina 2kg, cita 11kg.**

Process :

- **First, search known data.**
- **Then calculate for all customers.**
- **Ani = 4 * 4.500 = Rp18.000**
- **Budi = 15 * 4.500 = Rp67.500 * 5 % = 67.500 – 3.375 = Rp64.125**
- **Bina = 2 * 4.500 = Rp9.000**
- **Cita = 11 * 4.500 = Rp49.500 * 5 % = 49.500 - 2.475 = Rp47.025**
- **Total = 18.000 + 64.125 + 9.000 + 47.025 = Rp138.150**

Output : Total income