Subimssion Instructions :

Answers the questions in a new MS word document. Open a new MS Word document.

- Write your name(s), Student Id(s), assignment number, course name, program name, date (when you completed writing the programs) on the first page.
- From 2nd page onward start writing your answers, before every answer paste the question and question number.
- Insert page number on every page. After completing the assignment. Name the assignment as shown in the following example.

Group_no_Assignment_number_courseCode

Example :

Group1_A1_CSD1133.docx

After saving the Word file. Upload it

Grading Rubrics

1. Correctness of the program.
2. Properly indented programs
3. Properly documented program
4. Naming of variables
5. Syntax and Semantic of the program
6. Innovative logic implementation
7. Percentage of plagiarism

Sample Question and Answer:

Question : Calculate present value of a Bank deposit.

Suppose you want to deposit a certain amount of money into a savings account, and then leave it alone to draw interest for the next 10 years. At the end of 10 years you would like to have $10,000 in the account. How much do you need to deposit today to make that happen?

Write Pseudocode and draw a flowchart for the above question

Answer: You can use the following formula to find out:

$$P = \frac{F}{(1+r)^n}$$

The terms in the formula are as follows:

- *P* is the present value, or the amount that you need to deposit today.
- *F* is the future value that you want in the account. (In this case, *F* is $10,000.)
- *r* is the annual interest rate.
- *n* is the number of years that you plan to let the money sit in the account.

It would be nice to write a computer program to perform the calculation, because then we can experiment with different values for the terms. Here is an algorithm that we can use:

1. Get the desired future value.
2. Get the annual interest rate.
3. Get the number of years that the money will sit in the account.
4. Calculate the amount that will have to be deposited.
5. Display the result of the calculation in Step 4.

In Steps 1 through 3, we will prompt the user to enter the specified values. We will store the desired future value in a variable named future Value, the annual interest rate in a variable named rate, and the number of years in a variable named years.

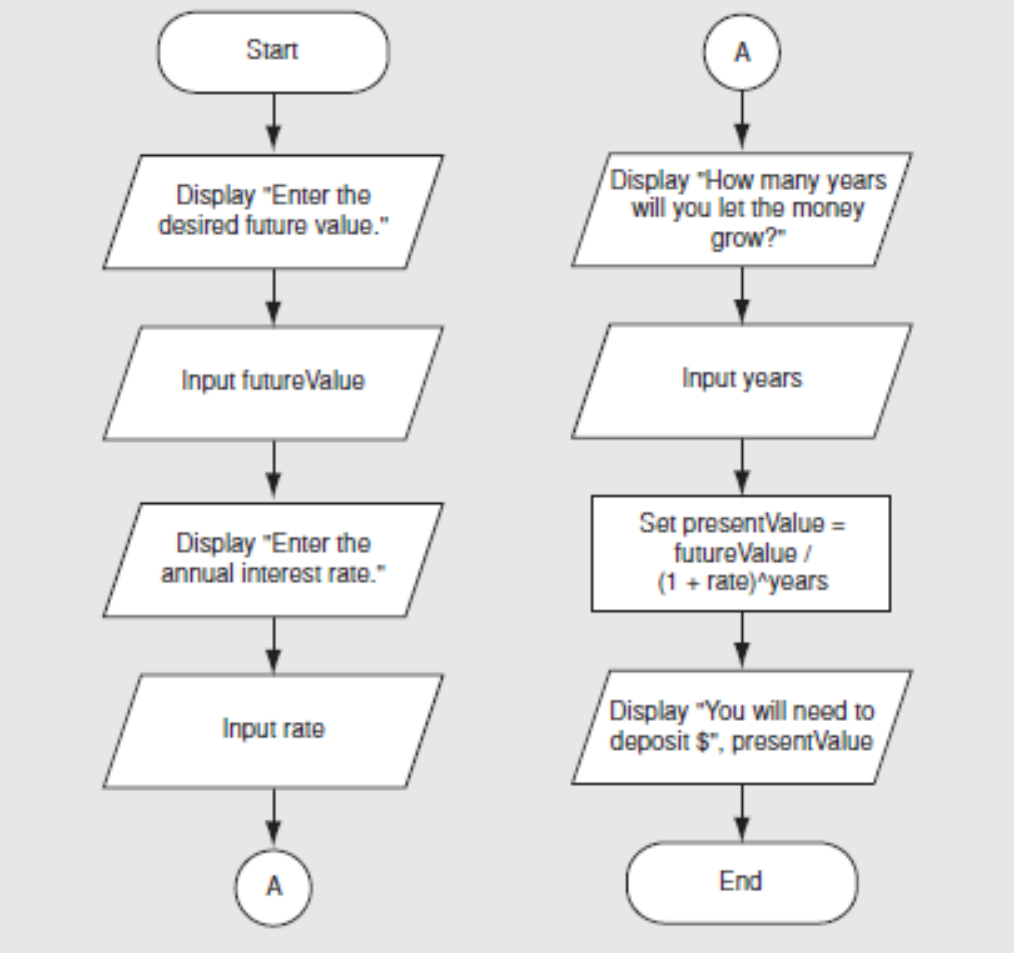
In Step 4, we calculate the present value, which is the amount of money that we will have to deposit. We will convert the formula previously shown to the following pseudocode statement. The statement stores the result of the calculation in the present Value variable.

Set presentValue = futureValue / (1 + rate) ^ years

ANSWER Pseudocode

Step 1 : Start
Step 2 : Declare Real futureValue, rate, presentValue
Step 3 : Declare Integer years
Step 4 : Display "Enter Future value."
Step 5 : Input futureValue
Step 6 : Display "Enter the annual interest rate."
Step 7 : Input rate
Step 8 : Display "How many years will you let the money grow?"
Step 9 : Input years
Step 10 : Set presentValue = futureValue / (1 + rate)^years
Step 11 : Display "You will need to deposit $", presentValue
Step 12 : End

Answer Flowchart



Referring the above question/ answer. Solve the questions in this assignment

Question - 1) Enter the name of a student, student's age, current year (2020). Now find out student's year of birth. Finally display the name, age and year of birth. Write pseudocode and draw flowchart

(Notes : in the above program you should have variables for name, age, year of birth and current year. You should input name, age and current year. Calculate year of birth. Later display all name age, year of birth)

Question - 2) Write a pseudocode and draw flowchart to enter a your height in feet. Convert your height into meter, centimeter and inch. Now display your height in feet, meter, centimeter and inch.

Question - 3) Write pseudocode and draw flowchart for calculating BMI(**Body mass index**) of any person.

You should enter your weight in Kgs and your height in meters, then calculate the BMI based on following formula.

$$BMI = \text{weight in Kgs} / (\text{height in meters})^2$$

After calculating BMI display it.

Question - 4) Write pseudocode and draw flowchart to enter the Name of an employee, employee number, his Basic Pay.

Calculate the following:

a) HRA(House Rent Allowance)
b) VA(Vacation Allowance)
c) Tax
d) Gross Pay
e) Net Pay

How to calculate:

a) HRA is calculated as 15 percent of Basic Pay.
b) VA is calcaulated as 7 percent of Basic Pay
c) Gross Pay is calculated as : Basic Pay + HRA + VA
d) Tax is calculated as 5% of Gross Pay
e) Net pay is calculated as : Gross Pay - Tax

What to Display:

1] Employee Number
2] Employee Name
3] Basic Salary
4] HRA
5] TA
6] Gross Pay
7] Net Pay

How to calculate Percentage

Determining percentages is a common calculation in computer programming. In mathematics, the % symbol is used to indicate a percentage, but most programming languages don't use the % symbol for this purpose. In a program, you usually have to convert a percentage to a decimal number. For example, 50 percent would be written as 0.5 and 2 percent would be written as 0.02.