#1 BMI

**Analysis:**

* **Input (s):** Weight, Height
* **Output(s):** BMI
* **Operation (s):** BMI = Weight/(Height)^2

**Pseudocode:**

* **Step 1:** Start
* **Step 2:** Read the Weight
* **Step 3:** Read the Height
* **Step 4:** Compute BMI = Weight/(Height)^2
* **Step 5:** Print BMI
* **Step 6:** Stop

**Flowchart:**

Start

Read weight in kg  
Read height in meter

Compute BMI(Weight/(Height)^2)

Display BMI

Stop

**#2 Distance Travelled by Fuel Tank**

**Analysis:**

* **Input(s):** Fuel\_Tank\_Capacity, Fuel\_Consumption\_Rate
* **Output(s):** Distance\_Travelled
* **Operation(s):** Distance\_Travelled = Fuel\_Tank\_Capacity \* Fuel\_Consumption\_Rate

**Pseudocode**:

* **Step 1:** Start
* **Step 2:** Read the Fuel\_Tank\_Capacity
* **Step 3:** Read the Fuel\_Consumption\_Rate
* **Step 4:** Compute Distance\_Travelled = Fuel\_Tank\_Capacity\*Fuel\_Consumption\_Rate
* **Step 5:** Print Distance\_Travelled
* **Step 6:** Stop

**Flow chart:**

Start

Read the Fuel\_Tank\_Capacity  
Read the Fuel\_Consumption\_Rate

Compute Distance\_Travelled (Fuel\_Tank\_Capacity\*Fuel\_Consumption\_Rate)

Display Distance\_Travelled

Stop

**#3. Uppercase ->Lowercase/Lowercase ->Uppercase**

**Analysis:**

* **Input(s):** Letter
* **Output(s):** Letter
* **Operation(s):**
* upper\_case\_letter=toupper(letter)
* lower\_case\_letter=tolower(letter)

**Pseudocode:**

* **Step 1:** start
* **Step 2:** Read letter
* **Step 3:** If it is toupper(letter) go to step, else if it is tolower(letter) go to step 4, skip 5 and go to 6&7 and else go to step 7
* **Step 4:** Compute upper\_case\_letter
* **Step 5:** Compute lower\_case\_letter
* **Step 6:** Print letter
* **Step 7:** Stop

Start

Read letter

Islower(letter)

True

Compute upper\_case\_letter(toupper(letter)

True

Isupper(letter)

Compute lower\_case\_letter(tolower(letter)

Display letter

Stop

Display letter

**#4. Power Function**

**Analysis:**

* **Input(s):** X,Y
* **Output(s):** P
* **Operation(s):** P = X^Y

**Pseudocode:**

* **Step 1:** Start
* **Step 2:** Read X
* **Step 3:** Read Y
* **Step 4:** Compute P=X^Y
* **Step 5:** Print P
* **Step 6: Stop**

**Flow chart:**

Start

Read X  
Read Y

R

r

Read Y

Compute P(X^Y)

Display P

Stop

**#5. Gross Salary, Net Salary & Bonus Payment**

**Analysis:**

* **Input(s):** Employee\_Name, Base\_Salary, Weekly\_Working\_hours, Bonus\_Rate\_Per\_Hour
* **Output(s):** Employee\_Name, Bonus\_Payment, Gross\_Salary, Net\_Salary
* **Operation(s):**
* Bonus\_Payment = Weekly\_Working\_Hours \* Bonus\_Rate\_Per\_Hour
* Gross\_Salary = Base\_Salary + Bonus\_Payment
* Pension\_Amount = Gross\_Salary \* Pension\_Rate
* Tax\_Amount = Gross\_Salary \* Tax\_Rate
* Net\_Salary = Gross\_Salary – Pension\_Amount – Tax\_Amount

**Pseudocode:**

* **Step 1:** Start
* **Step 2:** Declare variables for employee name, weekly working hours, bonus rate per hour, base salary, pension rate, and tax rate.
* **Step 3:** Read employee name, weekly working hours, bonus rate per hour, and base salary from the user.
* **Step 4:** Calculate the gross salary by adding the base salary and the bonus payment (weekly working hours \* bonus rate per hour).
* **Step 5:** Calculate the pension amount by multiplying the gross salary by the pension rate (5%).
* **Step 6:** Calculate the tax amount by multiplying the gross salary by the tax rate (15%).
* **Step 7:** Calculate the net salary by subtracting the pension amount and tax amount from the gross salary.
* **Step 8:** Display the employee's name, gross salary, net salary, and bonus payment.
* **Step 9:** Stop

**#6. File Transmission ETA**

**Analysis:**

* **Input(s):** Reads File\_Size\_in\_Bytes
* **Output(s):** Time\_for\_Transmission
* **Operation(s):** Time\_for\_Transmission = File\_Size\_in\_Bytes/960

**Pseudocode**

* **Step 1**: Start
* **Step 2:** Declare a variable for the file size in bytes and the transmission speed in characters per second.
* **Step 3:** Read the file size from the user.
* **Step 4:** Calculate the number of characters in the file by multiplying the file size by a conversion factor (assuming 1 byte = 1 character).
* **Step 5:** Calculate the time it will take to transmit the file by dividing the number of characters by the transmission speed.
* **Step 6:** Convert the time to hours, minutes, and seconds for better readability.
* **Step 7:** Display the time it will take to transmit the file in hours, minutes, and seconds.
* **Step 8:** Stop

Start

Declare variables  
Read file size

Calculate number of characters

Calculate time to transmit file

Convert time to hours, minutes, seconds" inside it.

Display time to transmit file

Stop