# Bangladesh University of Business and Technology (BUBT)


## Lab Report

**Course code:** CSE 352
**Course title:** Artificial Intelligence
**Experiment no:** 01
**Experiment name:** Write a Python program to input the basic salary of an employee and calculate their gross salary. Also write a program that allows you to input electricity unit charge and calculate the total energy bill.

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**Report no:** 01

**Report name:** Write a python program to input basic salary of an employee and calculate gross salary and also write a python program to input electricity unit charge and calculate the total electricity bill.

**Code Input/Output:**

**For problem 1:**

```
1
2  salary=float(input("Enter basic salary: "))
3  if salary <= 1000:
4     hra=salary * 0.2
5     da=salary * 0.8
6     gross=salary+hra+da
7     print("Gross salary= ",gross)
8  elif salary <= 1001 and salary > 2000:
9     hra=salary * 0.25
10    da= salary * 0.9
11    gross=salary+hra+da
12    print("Gross salary= ",gross)
13 elif salary >= 2001:
14    hra=salary * 0.3
15    da=salary * 0.95
16    gross=salary+hra+da
17    print("Gross salary= ",gross)
18
```

```
Enter basic salary: 345.22
Gross salary=  690.44

[Program finished]
```

**For problem 2:**

```
1
2  u=float(input("Enter Unit:"))
3  if u<=50:
4     bill=u*0.50
5  elif u<=150 and u>50:
6     bill=(50*0.50)+((u-50)*0.75)
7  elif u<=250 and u>150:
8     bill=(50*0.50)+(100*0.75)+((u-150)*1.
   20)
9  else:
10    bill=(50*0.50)+(100*0.75)+(100*1.20)+
   ((u-250)*1.50)
11 print("Electricity bill= ",bill)
12 price=((20/100)*bill)
13 surcharge=bill+price
14 print("Electricity bill with surcharge=",
   surcharge)
```

```
Enter Unit:450.5
Electricity bill=  520.75
Electricity bill with surcharge= 624.9

[Program finished]
```

**Description:**

**Algorithm:**

For problem 1(total salary):

- Taking a float type "salary" input that represents the desired salary input.
- The total gross salary for this code is "salary+hra+da".
- If the salary is less than or equal to 1000, hra and da are the products of the salary and 0.2 and 0.8, respectively. Then show total gross salary.
- Similar to the previous example, if the salary is more than or equal to 1001 and less than or equal to 2000, the salary will be upgraded.
- Once more, if the salary is more than 2000, then "hra= salary * 0.3" and "da= salary * 0.95" and print it.

For problem 2 (total electricity bill):

- Take an float type input "u" which represents "Enter unit:".
- The input "u" will be multiplied by 0.50 if it is less than or equal to 50. "bill=u * 0.50".
- Similarly, if "u" is less than 50 and larger than or equal to 150, the bill will be "bill=(50 * 0.50)+((u-50) * 0.75")
- The revised bill will be "bill=(50*0.5)+(100*0.75)+(100*1.20)+((u-150)*1.20)" if "u" is more than or equal to 250 and less than 150.
- "Bill=(50 * 0.50)+(100 * 0.75)+(100 * 1.20)+((u-250) * 1.50)" will be the sum of the remaining bills.
- Printing the electricity bill follows.
- After that, we must determine the pricing in order to apply a surcharge. The formula for the surcharge is "surcharge=bill+price."
- The cost is therefore "price = ((20/100)*bill". Print the electricity bill to finish, then you will be billed.

**Used functions:**

- Input(): The input() function reads a line from the information (often from the user), removes the terminating newline to turn the line into a string, and then returns the string.

  Syntax: input(prompt)
- Float(): A floating-point number is returned by the method float() for a specific set or text. Based on the argument or parameter value that is supplied to it, Float() provides the value.

  Syntax: float variable name [= value];
- If else(): The true and false parts of a given condition are both executed using the if-else() expression. If the condition is true, the code in the if block is run, and if it is false, the code in the else block is run.

  Syntax:

  if test expression:

  Body of if

  else:

  Body of else
- Print(): The print() method outputs the text to the normal external device, such as the display. Any object, including a string, can serve as the text. Before being displayed on the screens, the item will be changed into a string.

  Syntax: print(message)