**LAB Week 3:**

**Name: Muhammad Talha Shafiq Choudhary**

**Reg#: sp21-bse-008**

**Question 1:** Write a C program that uses a while loop to calculate and print the sum of the even integers from 1 to 30.

**Solution:**

**#include<stdio.h>**

**int main()**

**{**

**int i,sum=0;**

**i=2;**

**while(i<=30)**

**{**

**sum=sum+i;**

**i=i+2;**

**}**

**printf("sum first 30 even integers is %d",sum);**

**return 0;**

**}**

**Question 2:** Write a C program that uses a while loop to calculate and print the product of the odd integers from 0 to 19.

**Solution:**

**#include<stdio.h>**

**int main()**

**{**

**int a,product=1;**

**a=1;**

**while(a<=19)**

**{**

**product=product\*a;**

**a=a\*2;**

**}**

**printf("product of the first 0 to 19 odd integers is %d",product);**

**return 0;**

**}**

**Question 3:** Write a program that reads in a four-digit number, separates the number into its individual digits and prints them separated by three spaces. Thus, given the number 4233, the program should print:

4 2 3 3

(Hint use / and % operators)

**Solution:**

**#include<stdio.h>**

**int main()**

**{**

**int n;**

**printf("Input a four digits numbers:");**

**scanf("%d",&n);**

**printf("\n output:");**

**printf("%d ",n/1000);**

**n=n-((n/1000)\*1000);**

**printf("%d ",n/100);**

**n=n-((n/100)\*100);**

**printf("%d ",n/10);**

**n=n-((n/10)\*10);**

**printf("%d\n",(n%10));**

**return 0;**

**}**

**Question 4:** A large chemical company pays its sales staff on a commission basis. They receive £200 per week plus 9% of their gross sales for that week. For example, someone who sells £5000 of chemicals in one week will earn £200 plus 9% of £5000, a total of £650. Develop a C program that will input each salesperson’s sales for the previous week and print out their salary. Process one person’s figures at a time.

Enter sales in pounds (-1 to end): 5000.00

Salary is: 650.00

Enter sales in pounds (-1 to end): 00.00

Salary is: 200.00

Enter sales in pounds (-1 to end): 1088.89

Salary is: 298.00

Enter sales in pounds (-1 to end): -1

**Solution:**

**#include<stdio.h>**

**int main()**

**{**

**int sales, commission, qrosspay;**

**printf("Enter sales of one week");**

**scanf("%d",&sales);**

**commission=(sales\*9)/100;**

**qrosspay=sales+commission;**

**printf("gross pay is equal to %d",qrosspay);**

**return 0;**

**}**

**Question 5:** Because of the high price of petrol, you are concerned with the fuel consumption of your car. As a result, you have a record of the kilometers driven and liters used for each tank of petrol you purchase. Write a program that will display the kilometers driven, liters used, and consumption (in litres/100km) for each tankful. After processing all the input information, the program should calculate the overall average consumption: (Hint The liters/100km is (Liters/KM driven) x 100)

Enter the liters used (-1 to end): 57.6

Enter the kilometers driven: 459

The liters/100km for this tank was 12.5

Enter the liters used (-1 to end): 45.3

Enter the kilometers driven: 320

The liters/100km for this tank was 14.2

**Solution:**

**#include<stdio.h>**

**int main()**

**{**

**double liters,km,consumption;**

**printf("Enter a litters consumed:");**

**scanf("%lf",&liters);**

**printf("Enter a kilometer driven:");**

**scanf("%lf",&km);**

**consumption=(liters\*100)/km;**

**printf("The liters/100km for this tank was %lf",consumption);**

**return 0;**

**}**