/\*

Name. :-Sneha Goyal

University Rollno:-2023934

Section. :-B

Question 1:-

Write a program to input marks obtained by a student in five different subjects through the keyboard. Find out the aggregate marks and percentage marks obtained by the student. Assume that the maximum mark that

can be obtained by a student in each subject is 100.

\*/

#include <stdio.h>

int main()

{

// Declare variables to store marks for five subjects

int s1, s2, s3, s4, s5;

// Input marks for each subject

printf("\t\t\t\t\*\*\*\*\*INPUT\*\*\*\*\*\n");

printf("Enter marks for Subject 1 (out of 100): ");

scanf("%d", &s1);

printf("Enter marks for Subject 2 (out of 100): ");

scanf("%d", &s2);

printf("Enter marks for Subject 3 (out of 100): ");

scanf("%d", &s3);

printf("Enter marks for Subject 4 (out of 100): ");

scanf("%d", &s4);

printf("Enter marks for Subject 5 (out of 100): ");

scanf("%d", &s5);

// Calculate aggregate marks

int t = 5 \* 100;

// Total maximum marks for 5 subjects

int ag = s1 + s2 + s3 + s4 + s5;

// Calculate percentage marks

float p = ((float)ag/ t) \* 100;

// Display the results

printf("\t\t\t\t\*\*\*\*\*OUTPUT\*\*\*\*\*\n");

printf("Aggregate Marks: %d\n", ag);

printf("Percentage Marks: %f \n",p);

return 0;

}

\*\*\*\*\*INPUT\*\*\*\*\*

Enter marks for Subject 1 (out of 100): 98

Enter marks for Subject 2 (out of 100): 68

Enter marks for Subject 3 (out of 100): 57

Enter marks for Subject 4 (out of 100): 94

Enter marks for Subject 5 (out of 100): 67

\*\*\*\*\*OUTPUT\*\*\*\*\*

Aggregate Marks: 384

Percentage Marks: 76.800003

/\*

Name. :-Sneha Goyal

University Rollno:-2023934

Section. :-B

Question 2:-The length & breadth of a rectangle and radius of a circle are input through the keyboard. Write a

program to calculate the area & perimeter of the rectangle, and the area & circumference of the circle.\*/

#include <stdio.h>

#include <math.h>

int main()

{

float l, b, r;

// Input the length and breadth of the rectangle

printf("\t\t\t\t\*\*\*\*\*INPUT\*\*\*\*\*\n");

printf("Enter the length of the rectangle: ");

scanf("%f", &l);

printf("Enter the breadth of the rectangle: ");

scanf("%f", &b);

// Input the radius of the circle

printf("Enter the radius of the circle: ");

scanf("%f", &r);

// Calculate the area and perimeter of the rectangle

float a = l\* b;

float p = 2 \* (l + b);

// Calculate the area and circumference of the circle

float ca = 3.14\* (r \* r) ;

float cc= 2 \* 3.14\* r;

// Display the results

printf("\t\t\t\t\*\*\*\*\*OUTPUT\*\*\*\*\*\n");

printf("Area of the rectangle: %f \n", a);

printf("Perimeter of the rectangle: %f \n", p);

printf("Area of the circle: %f \n", ca);

printf("Circumference of the circle: %f \n", cc);

return 0;

}

\*\*\*\*\*INPUT\*\*\*\*\*

Enter the length of the rectangle: 12

Enter the breadth of the rectangle: 34

Enter the radius of the circle: 4

\*\*\*\*\*OUTPUT\*\*\*\*\*

Area of the rectangle: 408.000000

Perimeter of the rectangle: 92.000000

Area of the circle: 50.240002

Circumference of the circle: 25.120001

/\*

Name. :-Sneha Goyal

University Rollno:-2023934

Section. :-B

Question 3: Mr. X’s basic salary is input through the keyboard. His dearness allowance is 40% of the basic salary, and the house rent allowance is 20% of basic salary. Write a program to calculate his gross salary.

\*/

#include <stdio.h>

int main()

{

float bs, gsy, da, hra;

// Input the basic salary

printf("\t\t\t\t\*\*\*\*\*INPUT\*\*\*\*\*\n");

printf("Enter Mr. X's basic salary: ");

scanf("%f", &bs);

// Calculate dearness allowance (40% of basic salary)

da = 0.4 \* bs;

// Calculate house rent allowance (20% of basic salary)

hra = 0.2 \* bs;

// Calculate gs

gsy = bs + da + hra;

// Display the gross salary

printf("\t\t\t\t\*\*\*\*\*OUTPUT\*\*\*\*\*\n");

printf("Mr. X's gross salary is: %f \n", gsy);

return 0;

}

\*\*\*\*\*INPUT\*\*\*\*\*

Enter Mr. X's basic salary: 45000

\*\*\*\*\*OUTPUT\*\*\*\*\*

Mr. X's gross salary is: 72000.000000

/\*

Name. :-Sneha Goyal

University Rollno:-2023934

Section. :-B

Question 4:-

Write a program to swap two numbers using a third variable.

Sneha Goyal

University Rollno:-2023934

Section:-B

Class Rollno:-23

\*/

#include <stdio.h>

int main()

{

int num1, num2, temp;

// Input two numbers

printf("\t\t\t\t\*\*\*\*\*INPUT\*\*\*\*\*\n");

printf("Enter the first number: ");

scanf("%d", &num1);

printf("Enter the second number: ");

scanf("%d", &num2);

// Swap the numbers using a third variable

temp = num1;

num1 = num2;

num2 = temp;

// Display the swapped numbers

printf("\t\t\t\t\*\*\*\*\*OUTPUT\*\*\*\*\*\n");

printf("After swapping, the first number is: %d \n", num1);

printf("After swapping, the second number is: %d \n", num2);

return 0;

}

\*\*\*\*\*INPUT\*\*\*\*\*

Enter the first number: 8

Enter the second number: 5

\*\*\*\*\*OUTPUT\*\*\*\*\*

After swapping, the first number is: 5

After swapping, the second number is: 8

/\*

Name. :-Sneha Goyal

University Rollno:-2023934

Section. :-B

Question 5:Write a program to find roots of a quadratic equation; equation is of the form (ax^2+bx+c=0).

\*/

#include <math.h>

#include <stdio.h>

int main()

{

float a, b, c, d, r1, r2, rp, ip;

printf("\t\t\t\t\*\*\*\*\*INPUT\*\*\*\*\*\n");

printf("Enter coefficients a, b and c: ");

scanf("%f %f %f", &a, &b, &c);

d= b \* b - 4 \* a \* c;

// condition for real and different roots

if (d> 0)

{

r1 = (-b + sqrt(d)) / (2 \* a);

r2 = (-b - sqrt(d)) / (2 \* a);

printf("r1 = %f and r2 = %f", r1, r2);

}

// condition for real and equal roots

else if (d== 0)

{

r1 = r2 = -b / (2 \* a);

printf("r1 = r2 = %f;", r1);

}

// if roots are not real

else

{

rp = -b / (2 \* a);

ip = sqrt(-d) / (2 \* a);

printf("\t\t\t\t\*\*\*\*\*OUTPUT\*\*\*\*\*\n");

printf("r1 = %f+%f and r2 = %f-%f", rp, ip, rp, ip);

}

return 0;

}

\*\*\*\*\*INPUT\*\*\*\*\*

Enter coefficients a, b and c:

8

2

6

\*\*\*\*\*OUTPUT\*\*\*\*\*

r1 = -0.125000+0.856957 and r2 = -0.125000-0.856957