CENTRAL BOARD OF SECONDARY EDUCATION

JESUS' SACRED HEART SCHOOL
DX -1, SOUTH CITY, LUDHIANA

PRACTICAL/PROJECT FILE is submitted to department of Artificial Intelligence/ Information Technology for the partial fulfillment of AISSCE examination session 2025-26.

Subject – Artificial Intelligence (417)

SUBMITTED TO: Ms Heena

SUBMITTED BY: Jugadh Singh Rally

CLASS: X-A

ROLL NO: 1010-A

CERTIFICATE

This is to certify that   Jugadh Singh Rally   , student of Grade X - A   of

Jesus' Sacred Heart School has completed the **PROJECT/PRACTICAL FILE**

for the partial fulfillment of AISSCE examination session 2025-26 and submitted

satisfactory report, as compiled in the following pages, under my supervision.

Internal Examiner

Signature

Acknowledgement

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Program 1: Write a program to calculate the surface area and volume of a cuboid.

```python
# Program to calculate Surface Area and Volume of a Cuboid

# Taking inputs
length = float(input("Enter the length of the cuboid: "))
breadth = float(input("Enter the breadth of the cuboid: "))
height = float(input("Enter the height of the cuboid: "))

# Calculations
surface_area = 2 * (length*breadth + breadth*height + height*length)
volume = length * breadth * height

# Output
print("Surface Area of the Cuboid:", surface_area)
print("Volume of the Cuboid:", volume)
```

Output

```
Enter the length of the cuboid: 5
Enter the breadth of the cuboid: 3
Enter the height of the cuboid: 4
Surface Area of the Cuboid: 94.0
Volume of the Cuboid: 60.0
```

Program 2: Write a program to ask for height in centimeters and convert it into feet and inches.

```python
height_cm = float(input("Enter your height in centimeters: "))

height_inch = height_cm / 2.54
height_feet = height_inch // 12
remaining_inches = height_inch % 12

print("Your height is", height_feet, "feet", remaining_inches, "inches.")
```

Output

```
Enter your height in centimeters: 177
Your height is 5.0 feet 9.68503937007874 inches.
```

Program 3: Write a program to check whether the applicant is eligible to vote in the elections or not.

```python
age = int(input("Enter your age: "))

if age < 18:
    print("You are not eligible to vote.")
elif age == 18:
    print("This is your first time voting. Make it count!")
else:
    print("You are eligible to vote.")
```

Output

```
Enter your age: 22
You are eligible to vote.
```

```
Enter your age: 18
This is your first time voting. Make it count!
```

```
Enter your age: 16
You are not eligible to vote.
```

Program 4: Write a program to check whether the entered number is positive and even, positive and odd, negative and even, or negative and odd.

```python
num = int(input("Enter a number: "))

if num > 0:
    if num % 2 == 0:
        print("The number is positive and even.")
    else:
        print("The number is positive and odd.")
elif num < 0:
    if num % 2 == 0:
        print("The number is negative and even.")
    else:
        print("The number is negative and odd.")
else:
    print("The number is zero.")
```

Output

```
Enter a number: 68
The number is positive and even.
```

```
Enter a number: 67
The number is positive and odd.
```

```
Enter a number: -1000002
The number is negative and even.
```

```
Enter a number: -67
The number is negative and odd.
```

```
Enter a number: 0
The number is zero.
```

Program 5: Write a program to find the sum of all numbers stored in a list.

```python
numbers = [6, 5, 3, 8, 4, 2, 5, 4, 11]
sum = 0

for i in numbers:
    sum = sum + i

print("Sum is:", sum)
```

Output

```
Sum is: 48
```

Program 6: Write a program to check whether the number input by the user is an Armstrong number or not.

```python
num = int(input("Enter a number: "))
sum = 0
temp = num

while temp > 0:
    digit = temp % 10
    sum += digit ** 3
    temp //= 10

if num == sum:
    print(num, "is an Armstrong number")
else:
    print(num, "is not an Armstrong number")
```

Output

```
Enter a number: 1000
1000 is not an Armstrong number
```

```
Enter a number: 153
153 is an Armstrong number
```

Program 7: Write a program to generate the following pattern. 11111
2222
333
44
5

```
rows = 5
k = 0
for i in range(rows, 0, -1):
    k += 1
    for j in range(1, i + 1):
        print(k, end=" ")
    print()
```

Output

```
1 1 1 1 1
2 2 2 2
3 3 3
4 4
5
```

Program 8: Write a program to delete an element from a list.

```python
sub = ['English', 'Hindi', 'French', 'Math', 'Science']
sub_drop = sub.pop(-4)
print("Deleted subject:", sub_drop)
print("Updated List:", sub)
```

Output

```
Deleted subject: Hindi
Updated List: ['English', 'French', 'Math', 'Science']
```

Program 9: Write a program to take the temperature of all 7 days of the week and display the average temperature of the week.

```python
totalTemp = 0
for day in range(1, 8):
    temp = float(input("Enter temperature for day {}: ".format(day)))
    totalTemp += temp

avg_temp = totalTemp / 7
print("Average temperature of the week:", avg_temp)
```

Output

```
Enter temperature for day 1: 22
Enter temperature for day 2: 26
Enter temperature for day 3: 24
Enter temperature for day 4: 20
Enter temperature for day 5: 16
Enter temperature for day 6: 30
Enter temperature for day 7: 21
Average temperature of the week: 22.714285714285715
```

Program 10: Write a program that checks whether the number input from the user is a palindrome or not.

```python
num = int(input("Enter a number: "))
temp = num
rev = 0

while num > 0:
    dig = num % 10
    rev = rev * 10 + dig
    num = num // 10

if temp == rev:
    print("The number is palindrome.")
else:
    print("Not a palindrome.")
```

Output

```
Enter a number: 444433334444
The number is palindrome.
```

```
Enter a number: 6767
Not a palindrome.
```

Program 11: Write a program to perform arithmetic operations.

```python
num1 = float(input("Enter number 1: "))
num2 = float(input("Enter number 2: "))

add = num1 + num2
sub = num1 - num2
multi = num1 * num2
div = num1 / num2
mod = num1 % num2
expo = num1 ** num2

print("Sum of num1 and num2:", add)
print("Subtraction of num1 and num2:", sub)
print("Multiplication of num1 and num2:", multi)
print("Division of num1 and num2:", div)
print("Modulus of num1 and num2:", mod)
print("Exponent value of num1 and num2:", expo)
```

Output

```
Enter number 1: 8
Enter number 2: 5
Sum of num1 and num2: 13.0
Subtraction of num1 and num2: 3.0
Multiplication of num1 and num2: 40.0
Division of num1 and num2: 1.6
Modulus of num1 and num2: 3.0
Exponent value of num1 and num2: 32768.0
```

Program 12: Write a program to calculate the area of a triangle. Obtain height and base from the user.

```python
h = float(input("Enter height: "))
b = float(input("Enter base: "))

area = 0.5 * (b * h)

print("Area of triangle is:", area)
```

Output

```
Enter height: 67
Enter base: 42
Area of triangle is: 1407.0
```

Program 13: Write a program to check if a student passed an exam by scoring marks >=50, and if they did, check if they scored above 90, if he did then print "You are a Scholar".

```python
marks = int(input("Enter marks: "))

if marks >= 50:
    print("Student Passed")
    if marks > 90:
        print("You are a Scholar")
else:
    print("Student Failed")
```

Output

```
Enter marks: 67
Student Passed
```

```
Enter marks: 99
Student Passed
You are a Scholar
```

```
Enter marks: 27
Student Failed
```

Program 14: Write a program to sort a list in ascending order.

```python
lst = [45, 12, 78, 34, 23]
print("Original List:", lst)

lst.sort()
print("Sorted List:", lst)
```

Output

```
Original List: [45, 12, 78, 34, 23]
Sorted List: [12, 23, 34, 45, 78]
```

Program 15: Write a program to find the sum of all the numbers stored in a list.

```python
lst = [5, 10, 15, 20]
sum = 0

for i in lst:
    sum += i

print("List:", lst)
print("Sum of elements:", sum)
```

Output

```
List: [5, 10, 15, 20]
Sum of elements: 50
```