C++ MODEL EXAM:

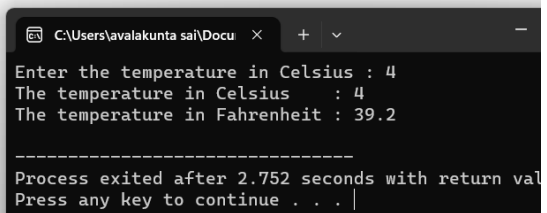## Avalakunta Sai

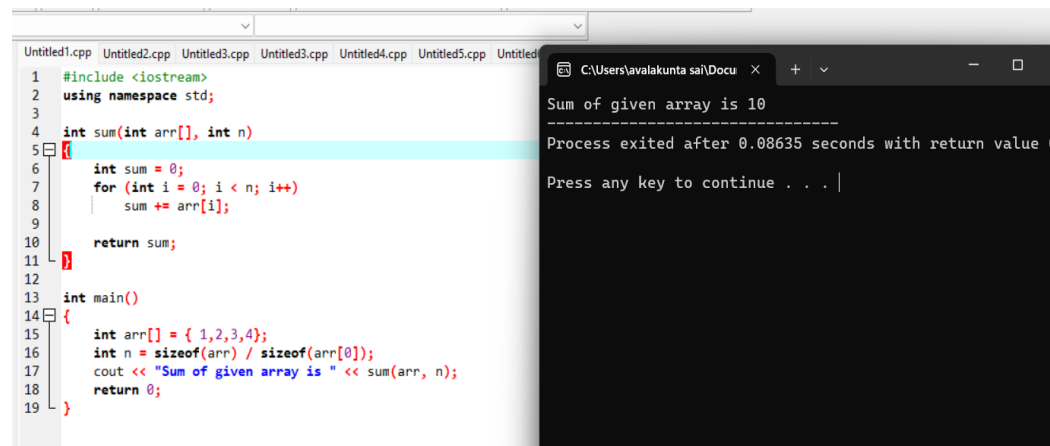## 192210306

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1.sum of elements in array22

```cpp
#include<iostream>
using namespace std;

int main()
{
    float fahrenheit, celsius;

    cout << "Enter the temperature in Celsius : ";
    cin >> celsius;
    fahrenheit = (celsius * 9.0) / 5.0 + 32;
    cout << "The temperature in Celsius    : " << celsius << endl;
    cout << "The temperature in Fahrenheit : " << fahrenheit << endl;
    return 0;
}
```
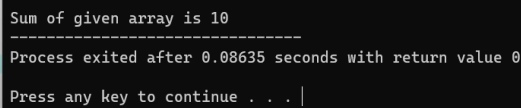
```
Enter the temperature in Celsius : 4
The temperature in Celsius    : 4
The temperature in Fahrenheit : 39.2

--------------------------------
Process exited after 2.752 seconds with return val
Press any key to continue . . .
```

2.celsius and fahrenheit

```cpp
#include <iostream>
using namespace std;

int sum(int arr[], int n)
{
    int sum = 0;
    for (int i = 0; i < n; i++)
        sum += arr[i];

    return sum;
}

int main()
{
    int arr[] = { 1,2,3,4};
    int n = sizeof(arr) / sizeof(arr[0]);
    cout << "Sum of given array is " << sum(arr, n);
    return 0;
}
```

```
Sum of given array is 10
-----------------------------------
Process exited after 0.08635 seconds with return value 0

Press any key to continue . . .
```

3.pattern

```cpp
#include <iostream>
using namespace std;

int main() {

    int rows;

    cout << "Enter number of rows: ";
    cin >> rows;

    for(int i = 1; i <= rows; ++i) {
        for(int j = 1; j <= i; ++j) {
            cout << j << " ";
        }
        cout << "\n";
    }
    return 0;
}
```

```
Result matrix is
2 2 2 2
4 4 4 4
6 6 6 6
8 8 8 8

----------------------------
Process exited after 0.08142 s
Press any key to continue . .
```

4.add 2 matrix

```cpp
1   #include <iostream>
2   using namespace std;
3   #define N 4
4   void add(int A[][N], int B[][N], int C[][N])
5   {
6       int i, j;
7       for (i = 0; i < N; i++)
8           for (j = 0; j < N; j++)
9               C[i][j] = A[i][j] + B[i][j];
10  }
11  int main()
12  {
13      int A[N][N] = { { 1, 1, 1, 1 },
14                      { 2, 2, 2, 2 },
15                      { 3, 3, 3, 3 },
16                      { 4, 4, 4, 4 } };
17
18      int B[N][N] = { { 1, 1, 1, 1 },
19                      { 2, 2, 2, 2 },
20                      { 3, 3, 3, 3 },
21                      { 4, 4, 4, 4 } };
22
23      int C[N][N];
24      int i, j;
25      add(A, B, C);
26
27      cout << "Result matrix is " << endl;
```

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```
Result matrix is
2 2 2 2
4 4 4 4
6 6 6 6
8 8 8 8

----------------------------
Process exited after 0.09009
Press any key to continue . .
```

5.exception handling.

```cpp
int main() {

    double numerator, denominator, divide;

    cout << "Enter numerator: ";
    cin >> numerator;

    cout << "Enter denominator: ";
    cin >> denominator;

    try {

        if (denominator == 0)
            throw 0;

        divide = numerator / denominator;
        cout << numerator << " / " << denominator << " = " << divide
    }

    catch (int num_exception) {
        cout << "Error: Cannot divide by " << num_exception << endl;
    }

    return 0;
}
```

```
Enter numerator: 4
Enter denominator: 56
4 / 56 = 0.0714286

----------------------------
Process exited after 3.3
rn value 0
Press any key to continu
```

6.constructor and destructor.

```cpp
1    #include<iostream>
2    #include<stdio.h>
3    #include<string.h>
4
5    using namespace std;
6
7    class T4Tutorials
8    {
9        int acno;
10       char AccountHolderName[100], Account_Type[100];
11       float bal;
12    public:
13       T4Tutorials(int acc_no, char *name, char *acc_type, float Balance)
14       {
15           acno=acc_no;
16           strcpy(AccountHolderName, name);
17           strcpy(Account_Type, acc_type);
18           bal=Balance;
19       }
20       void deposit();
21       void withdraw();
22       void Show();
23
24    };
25    void T4Tutorials::deposit()
26    {
27       int DepositAmount1;
```

```
Enter Details:
***********
Accout No.
123444455
Name :
sai
Account Type :
savings
Balance :
10000
Enter Deposit Amount =
10000000
Enter Withdraw Amount =
2334
*************
Accout No. : 123444455 Name : sai Account T
ype : savings Balance : 1.00077e+007
-------------------------------
Process exited after 24.5 seconds with retur
n value 0
Press any key to continue . . .
```

7.squareroot.

```
1    #include<iostream>
2    #include<cmath>
3    using namespace std;
4    int main()
5  ⊟ {
6        cout<<"squre root of 25=";
7        cout<<sqrt(25);
8        return 0;
9  └ }
```

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```
squre root of 25=5
-------------------------------
Process exited after 0.0829 seconds wi
Press any key to continue . . .
```

8.create a base class for employee.

```
1    #include <iostream>
2    #include <string>
3    using namespace std;
4 ⊟  class Employee {
5    protected:
6        string Emp_name;
7        int Emp_id;
8        string Address;
9        string Mail_id;
0        string Mobile_no;
1    public:
2        Employee(const string& name, int id, const string& address, const string& mail, con
3            : Emp_name(name), Emp_id(id), Address(address), Mail_id(mail), Mobile_no(mobile
4
5        virtual void generatePaySlip() = 0;
6  └ };
7 ⊟  class Programmer : public Employee {
8    protected:
9        double BP;
0    public:
1        Programmer(const string& name, int id, const string& address, const string& mail, c
2            : Employee(name, id, address, mail, mobile), BP(basicPay) {}
3 ⊟      void generatePaySlip() override {
4            double DA = 0.97 * BP;
5            double HRA = 0.10 * BP;
6            double PF = 0.12 * BP;
7            double staffClubFund = 0.001 * BP;
```

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```
Pay Slip for Programmer
Employee Name: John Doe
Employee ID: 101
Address: 123 Street Ave
Mail ID: john@example.com
Mobile Number: 1234567890
Basic Pay: 50000
Dearness Allowance: 48500
House Rent Allowance: 5000
Provident Fund: 6000
Staff Club Fund: 50
Gross Salary: 103500
Net Salary: 97450

-------------------------------
Process exited after 0.08865 second
turn value 0
Press any key to continue . . .
```