

## Question 1

### a.cpp

```
1  #include <iostream>
2  using namespace std;
3
4
5  int main()
6  {
7      int sum=0, avg=0;
8      int arr[] = {1, 2, 3, 4, 5};
9      int n = sizeof(arr)/sizeof(arr[0]);
10     for(int i=0; i!=n; ++i){
11         sum+= arr[i];
12     }
13
14     cout << "Sum: " << sum << endl;
15     cout << "Avg: " << sum/n << endl;
16 }
```

### b.cpp

```
1  #include <iostream>
2  using namespace std;
3
4  int main()
5  {
6
7      int arr[] = {1, 2, 3, 4, 5};
8      int n = sizeof(arr)/sizeof(arr[0]);
9      int temp = arr[0];
10     arr[0] = arr[n-1];
11     arr[n-1] = temp;
12     for(int i=0; i!=n; ++i) cout << arr[i] << " ";
13
14 }
```

### c.cpp

```
1  #include <iostream>
2  using namespace std;
3
4  int main()
5  {
6
7      int arr[] = {1, 2, 3, 4, 5};
8      int n = sizeof(arr)/sizeof(arr[0]);
9      int revArr[n];
10     for(int i=n-1, j=0; i!=-1, j!=n; --i, ++j) revArr[j] = arr[i];
11     for(int i=0; i!=n; ++i) cout << revArr[i] << " ";
12
13 }
```

#### d.cpp

```
1  #include <iostream>
2  using namespace std;
3
4  int main()
5  {
6
7      int arr[] = {1, 2, 3, 4, 5};
8      int n = sizeof(arr)/sizeof(arr[0]);
9      int maxi=arr[0], mini=arr[0];
10
11     for(int i=1; i!=n; ++i){
12         if(arr[i]>maxi) maxi=arr[i];
13         if(arr[i]<mini) mini=arr[i];
14     }
15     cout << "Maximum: " << maxi << endl;
16     cout << "Minimum: " << mini << endl;
17 }
```

### Question 3

(question 2 comes after question 3)

#### a.cpp

```
1  #include <iostream>
2  using namespace std;
3
4  int fact(int n);
5  int main()
6  {
7      int n;
8      cin >> n;
9      cout << fact(n);
10 }
11
12 int fact(int n) {
13     if(n >= 1) return n * fact(n-1);
14     return 1;
15 }
```

## b.cpp

```
1  #include <iostream>
2  using namespace std;
3
4  void smaller(int &num1, int &num2) {
5      if (num1>num2) num2 = 0;
6      else num1 = 0;
7  }
8
9  int main()
10 {
11     int num1, num2;
12     num1=2;
13     num2=2004;
14     smaller(num1, num2);
15     cout << num1 << endl;
16     cout << num2;
17 }
```

## c.cpp

```
1  #include <iostream>
2  using namespace std;
3
4  double power(double n, int p=2){
5      double result=1;
6      while(p!=0){
7          result*=n;
8          p--;
9      }
10     return result;
11 }
12
13 int main()
14 {
15     cout << power(4, 3);
16 }
```

d.cpp

```
1  #include <iostream>
2  using namespace std;
3  #include <string>
4
5  void showChoice();
6  double add(double a, double b);
7  double subtract(double a, double b);
8  double mulitiply(double a, double b);
9  string divide(double a, double b);
10
11
12 int main()
13 {
14     showChoice();
15     cout << add(4, 5) << endl;
16     cout << mulitiply(4, 5) << endl;
17     cout << subtract(4, 5) << endl;
18     cout << divide(4, 2) << endl;
19 }
20
21 void showChoice(){
22     cout << "Choose an operation:" << endl;
23     cout << "Enter '+' for Addition" << endl;
24     cout << "Enter '-' for Subtraction" << endl;
25     cout << "Enter '*' for Multiplication" << endl;
26     cout << "Enter '/' for Division" << endl;
27 }
28 double add(double a, double b){return a+b;}
29 double subtract(double a, double b){return a-b;}
30 double mulitiply(double a, double b){return a*b;}
31 string divide(double a, double b){return (b==0)? "u can't divide by zero" : to_string(a/b);}
32 }
```

## Question 2

1. 7#

9#

5#

30#

50#

70#

40#

2100#

1200#

a. 18, 4

b. 190 280 100

280 10

570 10

c. first = 8

second = 2

first = 9

d. 20 23

10 23

11 11