

~\OneDrive\Desktop\p1.c++

```
1  #include<iostream>
2  #include <iomanip>
3  #include<cmath>
4  using namespace std;
5  int main(){
6  //16
7  int a,b;
8  cin>>a>>b;
9  bool r=(a^b)<0;
10 if(r==1){
11     cout<<"opposite sign"<<endl;
12 }
13 else{
14     cout<<"same sign"<<endl;
15 }
16 //17
17 float a,b,r=0,c=0;
18 cin>>a>>b;
19 while(r>=b){
20     r=a-b;
21     c++;
22 }
23 cout<<c<<endl;
24 //18
25 int num;
26 cin>>num;
27 int r1=num>>1;
28 int r2=num<<2;
29 cout<<"right shift:"<<r1<<endl;
30 cout<<"left shift:"<<r2<<endl;
31 //19
32 int marks[5];
33 cout<<"enter marks for 5 subjects:"<<endl;
34 for(int i=0;i<5;i++){
35     cout<<"enter marks for subject "<<i+1<<endl;
36     cin>>marks[i];
37 }
38 int sum=0;
39 for(int i=0;i<5;i++){
40     sum+=marks[i];
41 }
42 if(sum>=90){
43     cout<<"A grade"<<endl;
44 }
45 else if(sum>=70){
46     cout<<"B grade"<<endl;
47 }
48 else if(sum>=60){
```

```
49     cout<<"C grade"<<endl;
50 }
51 else if(sum>=50){
52     cout<<"D grade"<<endl;
53 }
54 else{
55     cout<<"fail"<<endl;
56 }
57 //20
58 int c;
59 float a,b;
60 do{
61     cout<<"The following are the choices for calculating the values"<<endl;
62     cout<<"(1)ADDITION\n(2)SUBTRACTION\n(3)MULTIPLICATION\n(4)DIVISION\n(4)EXIT"<<endl;
63     cout<<"enter 2 numbers:"<<endl;
64     cin>>a>>b;
65     cout<<"enter your choice:"<<endl;
66     cin>>c;
67     switch(c){
68         case 1:cout<<"Addition is:"<<a+b<<endl;
69             break;
70         case 2:cout<<"Subtraction is:"<<a-b<<endl;
71             break;
72         case 3:cout<<"Multiplication is:"<<a*b<<endl;
73             break;
74         case 4:cout<<"Division is:"<<a/b<<endl;
75             break;
76         case 5:exit(0);
77             break;
78         default:cout<<"invalid choice"<<endl;
79             break;
80     }
81 }while(c!=5);
82 //21
83 int y;
84 cout<<"enter the year to check if the year is leap year or not:"<<endl;
85 cin>>y;
86 if((y%4==0&& y%100!=0)||y%400==0){
87     cout<<"year is leap year"<<endl;
88 }
89 else{
90     cout<<"the year is not the leap year"<<endl;
91 }
92 //22
93 int n;
94 cout<<"enter the number of numbers to be in fibonacci series:"<<endl;
95 cin>>n;
96 int arr[n];
97 arr[0]=1;
98 arr[1]=1;
```

```
99  for(int i=2;i<n;i++){
100      arr[i]=arr[i-1]+arr[i-2];
101  }
102  for(int i=0;i<n;i++){
103      cout<<arr[i]<<" ";
104  }
105  //23
106  int n,i=2,flag=0;
107  cout<<"Enter a positive integer value: ";
108  cin>>n;
109  while(i<=sqrt(n)){
110      if(n%i==0){
111          flag=1;
112          break;
113      }
114      i++;
115  }
116  (flag==0)
117      cout<<n<<" is a prime number.";
118  else
119      cout<<n<<" is not a prime number.";
120  //24
121  int num, fact = 1, i;
122  cout << "Enter a number: ";
123  cin >> num;
124  i = num;
125  do{
126      if(i>0){
127          fact*=i;
128      }
129      i--;
130  }
131  while(i>0);
132  cout << "Factorial of " << num << " is: " << fact << endl;
133  //25
134  int n;
135  cout<<"enter the length of array:"<<endl;
136  cin>>n;
137  int arr[n];
138  int sum=0;
139  for(int i=0;i<n;i++){
140      cout<<"enter element "<<i+1<<endl;
141      cin>>arr[i];
142  }
143  for(int i=0;i<n;i++){
144      sum+=arr[i];
145  }
146  int max=arr[0],min=arr[0];
147  for(int i=0;i<n;i++){
148      if(max<arr[i]){
```

```
149         max=arr[i];
150     }
151 }
152 for(int i=0;i<n;i++){
153     if(min>arr[i]){
154         min=arr[i];
155     }
156 }
157 cout<<"sum is "<<sum<<endl;
158 cout<<"max is "<<max<<endl;
159 cout<<"min is "<<min<<endl;
160 }
161
```