Bahria University,

Karachi Campus

Bahria University
Discovering Knowledge

COURSE: CSC -113 Computing Programming lab
TERM: SPRING 2020, CLASS: BCE- 2A

NAME = MUHAMMMAD UMAIR **ENROLMENT NO: (02-132192-004)**

Submitted By:

Eng sidra Mudassar
Submitted To:

- **Write a method table() which generates multiplicative table of an integer. The function receives three integers as its arguments. The first argument determine the table to be generated while the second and the third integer tell the starting and ending point respectively. Ask the user to provide the three integer as input in the main().**

PROGRAM:

```
#include<iostream>
using namespace std;
void table(int x,int y);
int main()
{   int table, x, y;
    cout << "Enter the multiplication table : ";
    cin >> table;
    cout<<"start point of table:";
    cin>>x;
    cout << "End point of table: ";
    cin >>y;
    cout<<"multiplicative table of an integer is:"<<endl;
    for (int i = 1; i <= y; ++i) {
        cout << table << " * " << i << " = " << table * i << endl;}
    return 0;}
```

input

```
Enter the multiplication table : 3
start point of table:1
End point of table: 5
multiplicative table of an integer is:
3 * 1 = 3
3 * 2 = 6
3 * 3 = 9
3 * 4 = 12
3 * 5 = 15
```

- **Find a Factorial of a Number Using Recursion**.

PROGRAM:

```cpp
#include<iostream>
using namespace std;
int factorial(int n);
int main()
{
    int n;
    cout << "Enter a positive integer: ";
    cin >> n;
    cout << "Factorial of " << n << " = " << factorial(n);
    return 0;
}
int factorial(int n)
{if(n > 1)
 return n * factorial(n - 1);
else
return 1;
}
```

input

```
Enter a positive integer: 2
Factorial of 2 = 2

...Program finished with exit code 0
Press ENTER to exit console.
```

- **With the help of function calculate the area of shapes such as circle,square,rec and triangle one area at a time by the choice of user**

PROGRAM:

```cpp
#include <iostream>
#include <cmath>    // for pow() function
using namespace std;
int area(int);
int area(int,int);
float area(float);
float area(float,float);
int main()
{ float length, area,b,c,s,r,a;
int ch;
cout<<"n1.Area of circle n2.Area of square";
cout<<"n3.Area of rectangle n4.Area of triangle:";
cin>>ch;
switch(ch){
case 1:{
cout<<"\n Enter radius of the circle:";
cin>>r;
area=3.14*r*r;
break;
}case 2:{
   cout << "\nEnter the Length of Square : ";
   cin>>length;
   area = length * length;
   cout << "\nArea of Square : " << area;}
case 3:{
cout<<"\n Enter length and breadth:";
cin>>a>>b;
area=a*b;
break;}
case 4:{
cout<<"\n Enter three sides of the triangle:";
cin>>a>>b>>c;
s=(a+b+c)/2;
area=sqrt(s*(s-a)*(s-b)*(s-c));
break;
}
default: cout<<"\n Wrong choice…!!!";
break;
}
cout<<"Area="<<area;
}
```

```
n1.Area of circle n2.Area of squaren3.Area of rectangle n4.Area of triangle:2

Enter the Length of Square : 3

Area of Square : 9
 Enter length and breadth:3
5
Area=15

...Program finished with exit code 0
Press ENTER to exit console.
```

- **Write a method named square_cube() that computes the square and cube of the value passed to it and display the result. Ask the user to provide the integer input in the main() and then call the function.**

PROGRAM:

```
#include<iostream>
using namespace std;
int square_cube();
int sqr();
int cube();
int main()
{cout<<sqr()<<endl;
 cout<<cube()<<endl;
}
int sqr()
{   int x;
    cout<<"square of a number is:";
    cin>>x;
    int c = x*x;
    return c;}
int cube()
{   int y;
    cout<<"cube of a number is:";
    cin>>y;
    int c = y*y*y;
    return c;}
```

input

```
square of a number is:4
16
cube of a number is:3
27


...Program finished with exit code 0
Press ENTER to exit console.
```

- **Write a C++ Program that contains one user defined function month().**
- **In main() function:Read an integer input in between (1 to 12) and store it month_of_year.**
- **Call month(month_of_year)**
- **In month() function:Print the corresponding month of year in month().**
- **Example: Value of parameter is 4… Print “April”.**

PROGRAM:

```
6
7   ********************************************************************************/
8   #include <iostream>
9   using namespace std;
10  int month();
11  int main() {
12      int mno;
13      cout<<"\n Value of parameter is: ";
14      cin>>mno;
15      switch(mno)
16      {  case 1 :
17          cout<<"January\n";
18           break;
19          case 2 :
20           cout<<"February\n";
21            break;
22          case 3 :
23           cout<<"March\n";
24            break;
25          case 4 :
26           cout<<"April\n";
27            break;
28          case 5 :
29          cout<<"May\n";
30          break;
31          case 6 :
32          cout<<"June\n";
33           break;
34          case 7 :
35           cout<<"July\n";
36            break;
37          case 8 :
38           cout<<"August\n";
39           break;
40          case 9 :
41           cout<<"September\n";
42            break;
43          case 10 :
44           cout<<"October\n";
45            break;
46          case 11 :
47           cout<<"November\n";
48           break;
49          case 12 :
50          cout<<"December\n";
51           break;
52          default :
53           cout<<"Input a number between 1 to 12.";}
54      return 0;}
55
56
```

```
 Value of parameter is: 7
July


...Program finished with exit code 0
Press ENTER to exit console.
```

- **Write a C++ program to store and calculate the sum of 5 numbers entered by the user using arrays in method name sum().(hint : pass array in parameter)**

PROGRAM:

```
 8
 9  #include <iostream>
10  using namespace std;
11  int sum(int arr[1]);
12  int main(){
13      int n, i;
14      float arr[i], sum=0, average;
15
16      cout << "Enter the size of the array : "<<endl;
17      cin >> n;
18      cout << "Enter the elements of the array : "<<endl;
19      for (i = 0; i < n; i++)
20      cin >> arr[i];
21      for (i = 0; i < n; i++)
22      {
23          sum += arr[i];
24      }
25      cout << "Sum of array elements"<<" = " << sum<<endl;
26     return 0;
27  }
28
29
```

input

```
Enter the size of the array :
2
Enter the elements of the array :
0
1
Sum of array elements = 1


...Program finished with exit code 0
Press ENTER to exit console.
```

- **Write a C++ that calculate price of purchased fruits.**
- **A shopkeer supplies following fruits.**

- **Apple, Banana, Mango, Peach and Grapes**
- **Unit of each fruit per kg is:**
- **Apple = 160**
- **Banana = 120**
- **Mango = 110**
- **Peach = 100**
- **Grapes = 130**

- **Ask user to enter purchased quantity of each fruits. Store values in variables.**
- **Write a function Cal_Pric (int, int, int& total) that calculate the price for each fruit.**
- **For example Cal_Price(160,2,total) saves 320 in variable total.**

PROGRAM:

```
#include<iostream>
using namespace std;
void Cal_price(int x,int y,int&total);
int main()
{
int a,b,m,p,g;
cout<<"\n================================\n";
cout<<"\nHow many Apples did you buy : ";
cin>>a;
cout<<"\nHow many Banana did you buy : ";
cin>>b;
cout<<"\nHow many Mango did you buy : ";
cin>>m;
cout<<"\nHow many Peach did you buy : ";
cin>>p;
cout<<"\nHow many Grapes did you buy : ";
cin>>g;
cout<<"\n================================\n";
int total;
Cal_price(160,a,total);

cout<<"\nPrice for Apple: "<<a<<" * 160= "<<total;
Cal_price(120,b,total);
cout<<"\n\nPrice for Banana: "<<b<<" * 120= "<<total;
Cal_price(110,m,total);
cout<<"\n\nPrice for Mango: "<<m<<" * 110= "<<total;
Cal_price(100,p,total);
cout<<"\n\nPrice for Peach: "<<p<<" * 100= "<<total;
Cal_price(130,g,total);
cout<<"\n\nPrice for Grapes: "<<g<<" * 130= "<<total<<endl;
cout<<"\n\n**************************************"<<endl;
total=(a*160)+(b*120)+(m*110)+(p*100)+(g*130);
cout<<"\n\nTotal Price of your purchase is:"<<total<<endl;
cout<<"\n\n**************************************"<<endl;
}
void Cal_price(int x,int y,int&total)
{
total=x*y;
}
```

```
How many Apples did you buy : 4

How many Banana did you buy : 3

How many Mango did you buy : 2

How many Peach did you buy : 4

How many Grapes did you buy : 4

==============================

Price for Apple: 4 * 160= 640

Price for Banana: 3 * 120= 360

Price for Mango: 2 * 110= 220

Price for Peach: 4 * 100= 400

Price for Grapes: 4 * 130= 520


****************************************


Total Price of your purchase is:2140


****************************************
```