

## **(FUNCTIONS QUESTIONS SOLUTIONS)**

**(MADE BY ALI AKBER)**

**(BSCS IST SS1)**

**Question 1: Write a program using function which accept two integers as an argument from main(). The function calculate its sum print the results.**

```
#include <iostream>

using namespace std;

void num(int,int);

int main ()
{
    int n1,n2;

    cout<<"enter two number"<<endl;

    cin>>n1>>n2;

    num (n1,n2);

    return 0;
}

void num(int n1,int n2)
{
    int sum=0;

    sum=n1+n2;

    cout<<"sum of numbers is "<<sum<<endl;
}
```

**Question 2: Write a program that accept an integer number in main(). Define a function which accept integer value as an argument. It calculate and print the factorial of this passing number. Call this function from main ().**

```

#include <iostream>

using namespace std;

void num(int);

int main ()
{
    int n;

    cout<<"enter number"<<endl;

    cin>>n;

    num (n);

    return 0;
}

void num(int n)
{
    int fact=1;

    for (int i=1; i<=n ; i++)
    {
        fact= fact*i;
    }

    cout<< "factorial of the number "<<n<<" is "<< fact<<endl;
}

```

**Question 3: Write a program that inputs two numbers in main() function, passes these numbers to a function. The function displays the maximum number.**

```

#include <iostream>

using namespace std;

void max(int a,int b);

int main ()

```

```

{
int n1,n2;

cout<<"enter two numbers"<<endl;

cin>>n1>>n2;

max (n1,n2);

return 0;

}

void max(int a,int b)

{

if (a<b)

cout<<"Maximum number is "<<b<<endl;

else

cout<<"Maximum number is "<<a<<endl;

}

```

**Question 4: Write a program that accepts two integer numbers in main(). Define a function SWAP () which accept integer values as an arguments. Function swap the value of these numbers and print them after swapping in main(). Call this function from main().**

```

#include <iostream>

using namespace std;

void num(int,int);

int main ()

{

int n1,n2;

cout<<"enter two number"<<endl;

cin>>n1>>n2;

num (n1,n2);

```

```

return 0;

}

void num(int n1,int n2)

{

int temp=0;

temp=n1;

n1=n2;

n2=temp;

cout<<"Value of  n1 after swapping is "<<n1<<endl;

cout<<"Value of  n2 after swapping is "<<n2<<endl;

}

```

**Question 5: Write a program that accept temperature in Fahrenheit in main(). Define a user define function which accept temperature as an argument. It calculate and print the temperature in centigrade. Call this function from main().**

```

#include <iostream>

using namespace std;

void temp (float);

int main ()

{

float f;

cout<<"enter temperature in Fahrenheit"<<endl;

cin>>f;

temp (f);

return 0;

}

void temp (float f)

{

```

```
float c;  
  
c =(f-32)*5/9;  
  
cout<<"Temperature in Celsius is "<< c<<endl;  
  
}
```

**Question 6: Write a function that receive one integer number as an argument from main(). The function display a message on screen, the passing number is prime or not.**

```
#include <iostream>  
  
using namespace std;  
  
void num (int);  
  
int main ()  
{  
  
int n;  
  
cout<<"enter a number "<<endl;  
  
cin>>n;  
  
num(n);  
  
return 0;  
}  
  
void num (int n)  
{  
  
bool prime=false;  
  
if (n%2==0)  
{  
  
prime =false;  
  
cout<<"Given number is not a prime number"<<endl;
```

```

}

else if (n%2!=0)

{

prime=true;

cout<<"Given number is  a prime number"<<endl;

}

}

```

**Question 7: Write a function that receives two integer numbers as an arguments from main(). The function display the power of 2nd number from 1st number and then print the result on screen.**

```

#include<iostream>

using namespace std;

void power(int,int);

int main ( )

{

    int no1,no2;

    cout<<"Enter number 1 : "<<endl;

    cin>>no1;

    cout<<"Enter number 2 : "<<endl;

    cin>>no2;

    power(no1,no2);

    return 0;

}

void power(int no1,int no2)

{

    int num;

    num=no1;

```

```

        for(int i=2;i<=no2;i++)
        {
            num=num*no1;
        }

        cout<<"power of "<<no2<<" from "<<no1<<" is "<<num<<endl;
    }

```

**Question 8: Write a program that inputs mark in main function and pass the mark to a function. The function finds grade of student on the basis of the following criteria**

**Grade A 80 or above marks**

**Grade B 60 to 79 marks**

**Grade C 40 to 59 mark**

**Grade D Below 40 marks**

```

#include <iostream>

using namespace std;

void marks(int);

int main ()
{
    int n;

    cout<<"enter number obtained by student"<<endl;

    cin>>n;

    marks (n);

    return 0;
}

void marks(int n)
{
    if (n>=80)

```

```

cout<<"You have got Grade A"<<endl;

if (n>=60 && n<80)

cout<<"You have got Grade B"<<endl;

if (n>=40 && n<60)

cout<<"You have got Grade C"<<endl;

if (n<40)

cout<<"You have got Grade D"<<endl;


}

```

### Question No 9:

**Write a program that inputs two numbers and one arithmetic operator in main function and passes them to a function. The function applies arithmetic operation on two numbers on the basis of the operator entered by user using switch statement.**

```

#include <iostream>

using namespace std;

void operation(int,int,char);

int main ()

{

int n1,n2;

char ch;

cout<<"enter 1st number"<<endl;

cin>>n1;

cout<<"enter 2nd number"<<endl;

cin>>n2;

cout<<"enter an operator"<<endl;

cin>>ch;

operation(n1,n2,ch);

```



```

return 0;

}

void operation(int n1,int n2,char ch){
    switch(ch)
    {
        case '+':
            cout<<n1<<"+"<<n2<<"="<<n1+n2;
            break;

            case '-':
                cout<<n1<<"-"<<n2<<"="<<n1-n2;
                break;

            case '/':
                cout<<n1<<"/"<<n2<<"="<<n1/n2;
                break;

            case '*':
                cout<<n1<<"*"<<n2<<"="<<n1*n2;
                break;

            case '%':
                cout<<n1<<"%"<<n2<<"="<<n1%n2;
                break;

            default:
                cout<<"You have entered invalid operation";
                break;

    }
}

```

**Question 10: Write a program that ask the user to perform arithmetic operations on two numbers.**

Your program allow the user to select the operation (+, -, \*, / or %) and input the two integers numbers in main(). Furthermore, your program must consist of following functions.

i. Function Add(): This function accepts two number as arguments and display their sum on screen.

ii. Function Subtract(): This function accepts two number as arguments and display their difference on the screen.

Function Multiply(): This function accepts two number as arguments display their product on the screen.

Function Divide(): This function accepts two number as arguments and display their quotient on the screen.

V. Function Modulus(): This function accepts two number as arguments and display their reminder on the screen.

vi. Function Message(): This function display a message "Error...invalid option" on the screen.

```
#include <iostream>

using namespace std;

int add (int,int);

int subtract(int,int);

int multiply(int,int);

int divison(int,int);

int modelus(int,int);

void message();

int main(){

    int n1,n2;

    char choice;

    cout<<"enter two integers"<<endl;

    cin>>n1>>n2;

    cout<<"enter operator"<<endl;
```

```

cin>>choice;

switch(choice){

case '+':

cout<<add(n1,n2);

break;

case '-':

cout<<subtract(n1,n2);

break;

case '*':

cout<<multiply(n1,n2);

break;

case '/':

cout<<divison(n1,n2);

break;

case '%':

cout<<modulus(n1,n2);

break;

default:

    message();

}

return 0;

}

```

```

int add (int n1,int n2){

    int sum;

    sum=n1+n2;

```

```

        return sum;
    }

    int subtract(int n1,int n2){
        int subtract;
        subtract=n1-n2;
        return subtract;
    }

    int multiply (int n1,int n2){
        int multiply;
        multiply=n1*n2;
        return multiply;
    }

    int divison(int n1,int n2){
        ;
        int divison;
        divison=n1/n2;
        return divison;
    }

    int modelus(int n1,int n2){
        int modelus;
        modelus=n1%n2;
        return modelus;
    }

    void message(){
        cout<<"you have entered invalid operator";
    }

```

**Question 11: Write a value returning function that receives a character and returns true if the character is a vowel and false otherwise. For this example, vowels include the characters 'a', 'e', 'i', 'o', and 'u'.**

```
#include <iostream>

using namespace std;

char vowel(char g);

int main ()
{
    char ch,v,r;

    cout<<"enter a character"<<endl;

    cin>>ch;

    v=vowel(ch);

    if (v==true)

        cout<<"your entered character "<<ch<<" is a vowel";

    else

        cout<<"your entered character "<<ch<<" is not a vowel";

    return 0;

}

char vowel(char g)

{

    if (g=='a' || g=='e' || g=='i' || g=='o' || g=='u')

        return true;

    else

        return false;

}
```

**THE END.**

