**Interview Preparations**

**1.**       **Write a program to accept two numbers from the user, calculate the sum and display the same.**

Expected output:

*Enter the num1 value:*

*10*

*Enter the num2 value:*

*20*

*Sum of 10 and 20 is 30*

**Solution**

#include <stdio.h>

int main() {

int number1, number2, sum;

printf("Enter the num1 value: ");

scanf("%d", &number1);

printf("Enter tthe num2 value: ");

scanf("%d", &number2);

sum = number1 + number2;

printf("the sum of %d and %d = %d", number1, number2, sum);

return 0;

}

**2.**       **Write a program to accept the weight of 3 persons, calculate the total weight, determine the average weight and display these details.**

Expected output:

*Enter the weight of the first person:*

*55.5*

*Enter the weight of the second person:*

*45.4*

*Enter the weight of the third person:*

*65.6*

*The sum of weight of the 3 persons is 166.5 Kgs and the average weight is 55.5 Kgs*

**Solution**

#include <stdio.h>

#include<math.h>

int main(){

float a, b, c, sum;

float avg;

printf("Enter the weight of the first person: \n");

scanf("%f", &a);

printf("Enter the weight of the second person: \n");

scanf("%f ", &b);

printf("Enter the weight of the Third person: \n");

scanf("%f ", &c);

sum = a + b + c;

avg = sum / 3;

printf("The sum of weight of the 3 persons is = %f Kgs and the average weight is= %f Kgs ", sum ,avg);

return 0;

}

**3.**       **Write a program to accept the following details of an employee: empno, name and monthly salary; calculate the yearly salary and display the result.**

Expected output:

*Enter the empno:*

*1001*

*Enter the employee name:*

*Ramana*

*Enter the in*

*25000*

*Hi Ramana! Your employee id is 1001, monthly salary is Rs 25,000 and yearly salary is Rs 300,000.*

**Solution**

#include <stdio.h>

#include<math.h>

int main(){

float a,c,sum;

char b;

printf("Enter Enter the empno: \n");

scanf("%f", &a);

printf("Enter the employee name: \n");

scanf("%c ", &b);

printf("Enter the monthly salary: \n");

scanf("%f ", &c);

sum = c \*12;

printf("Hi %s! Your employee id is %f , monthly salary is Rs %fand yearly salary is Rs %f", b,a,c,sum );

return 0;

}

**4.**       **Write a program to accept two numbers from the user, swap their values and display the result.**

Expected output:

*Enter the first number num1:*

*100*

*Enter the second number num2:*

*200*

*Before swap, the values of num1=100 and num2=200*

*After swap, the values of num1=200 and num2=100*

**Solution**

#include <stdio.h>

#include<math.h>

int main(){

int a,b,swap;

printf("Enterthe first number num1: \n");

scanf("%d", &a);

printf("Enter the second number num2: \n");

scanf("%d", &b);

//printf("Enter the monthly salary: \n");

//scanf("%f ", &c);

//sum = c \*12;

int c= a;

int d= b;

printf("Before swap, the values of num 1=%d and num 2=%d\n", a,b);

printf("After swap, the values of num 1=%d and num 2=%d", d,c);

return 0;

}

**5.**       **Write a program to accept the principal amount, rate of interest, time and calculate the simple interest.**

Expected output:

*Enter the principal amount:*

*20000*

*Enter the rate of interest*

*1.5*

*Enter the time (years)*

*2*

*Simple interest is 600*

(Help: Simple Interest formula ((p\*t\*r)/100))

**Solution**

#include <stdio.h>

#include<math.h>

int main(){

int a;

float c,b,sum;

printf("Enter the principal amount: \n");

scanf("%d", &a);

printf("Enter the rate of interest: \n");

scanf("%f", &b);

printf("Enter the time (years): \n");

scanf("%f ", &c);

sum =(a\*b\*c)/100;

printf("Simple interest is :%f",sum);

return 0;

}

***IF* Statement**

**6.**       **Write a program to accept a number, if it is negative then covert it to a positive number.**

Expected output:

*Enter a number:*

*-10*

*The result is: 10*

**Solution**

#include <stdio.h>

#include<math.h>

int main(){

int a;

float sum;

printf("Enter a number: \n");

scanf("%d", &a);

sum =-a;

printf("Simple interest is :%f",sum);

return 0;

}

**7.**       **Write a program to accept the billing amount, if it is > 6000 then give a discount of 10% and display the net amount.**

Expected output:

*Enter the billing amount:*

*6500*

*Your net billing amount: 5850*

*Enter the billing amount:*

*5500*

*Your net billing amount: 5500*

**Solution**

#include <stdio.h>

#include<math.h>

int main(){

int a,c,b,sum;

printf("Enter the billing amount \n");

scanf("%d", &a);

printf("Your net billing amount \n");

scanf("%d", &b);

printf("Enter the billing amount: \n");

scanf("%d ", &c);

printf("Simple interest is :%d",c);

return 0;

}

**8.**       **The Sports Club registration form has the following details: name, mobile number and age. Per the membership policy, the person should be at least 18 years old to become a member. Write a program to accept the details mentioned above; if the age is >18 years then display the entered details with a congratulatory message, else the following message should be displayed “Sorry! You need to be at least 18 years old to get membership.”**

Expected output:

Enter the name:

Lakshman

Enter the mobile number:

989999999

Enter the age:

16

“Sorry! You need to be at least 18 years old to get membership.”

Enter the name:

Lakshman

Enter the mobile number:

989999999

Enter the age:

30

“Congratulations Lakshman for your successful registration.”

Hint: Use *return* statement in *if* block after displaying the “Sorry…” message.

**Solution**

#include <stdio.h>

#include<math.h>

int main(){

int c,b,age;

char a;

printf("Enter the name: \n");

scanf("%c", &a);

printf("Enter the mobile number: \n");

scanf("%d", &b);

printf("Enter the age: \n");

scanf("%d ", &c);

age=c;

if(age<18)

{

printf("Congratulations %d for your successful registration");

}

printf("Sorry! You need to be at least 18 years old to get membership");

return 0;

}

**If – Else Statement**

9.       Write a program to accept a number from the user and determine whether it is even or odd.

Expected output:

*Enter a number:*

*15*

*The entered number 15 is odd*

*Enter a number*

*10*

*The entered number 10 is even*

**Solution**

#include <stdio.h>

int main() {

int num;

printf("Enter an integer: ");

scanf("%d", &num);

if(num % 2 == 0)

printf("%d is even.", num);

else

printf("%d is odd.", num);

return 0;

}

**10.**   **Write a program to accept two numbers from the user and determine bigger of the two.**

Expected output:

*Enter the first number num1:*

*20*

*Enter the second number num2:*

*45*

*The bigger of the two numbers entered (20 and 45) is: 45*

**Solution**

#include <stdio.h>

int main() {

int a, b;

printf("Please Enter Two different values\n");

scanf("%d %d", &a, &b);

if(a > b)

{

printf("%d is Largest\n", a);

}

else if (b > a)

{

printf("%d is Largest\n", b);

}

else

{

printf("Both are Equal\n");

}

return 0;

}

**11.**   **Write a program to accept two numbers num1 and num2; when one is subtracted from the other, the result should always be a positive number.**

Expected output:

*Enter the first number num1:*

*35*

*Enter the second number num2:*

*45*

*The result (difference) is: 10*

*Enter the first number num1:*

*45*

*Enter the second number num2:*

*35*

*The result (difference) is: 15*

**Solution**  
#include <stdio.h>

int main() {

int a, b;

printf("*Enter the first number num1abd num2*\n");

scanf("%d %d", &a, &b);

int c=a-b;

printf(" *The result (difference)is:* %d \n",c);

return 0;

}

**12.**   **In a shopping mall, privileged customers (if they have a membership card) are being given a 10% discount on the billed amount, and the others are being given a 3% discount. Write a program to accept the billing amount and confirm the membership card from the customer; calculate and display the net amount to be paid by the customer.**

Expected output:

*Enter the bill amount:*

*5000*

*Do you have a membership card?*

*Y*

*Thank you! Your total bill amount is Rs 5000, discount is Rs 500 and net amount payable is Rs 4500.*

*Enter the bill amount:*

*5000*

*Do you have a membership card?*

*N*

*Thank you! Your total bill amount is Rs 5000, discount is Rs 150 and net amount payable is Rs 4850.*

**IF – ELSE – IF Statement**

**Solution**

#include <stdio.h>

int main() {

int a;

char b;

printf("Enter the bill amount:\n");

scanf("%d ", &a);

printf("Do you have a membership card?\n");

scanf("%c", &b);

int d = a-500;

int net = d;

if(b==y){

printf(" Thank you! Your total bill amount is Rs %d discount is Rs %d and net amount payable is Rs %d \n",b,d,net);

}else{

printf("error");}

return 0;

}

**13.**   **Write a program to accept 3 numbers from the user and find the biggest of them.**

Expected output:

*Enter the 1st number num1:*

*45*

*Enter the 2nd number num2:*

*75*

*Enter the 3rd number num3:*

*45*

*The biggest of the 3 numbers entered is: 75*

**Solution**

#include <stdio.h>

int main() {

double n1, n2, n3;

printf("Enter the 1st number num1: ");

scanf("%lf ", &n1);

printf("Enter the 1st number num2: ");

scanf("%lf ", &n2);

printf("Enter the 1st number num3: ");

scanf("%lf ", &n3);

if (n1 >= n2 && n1 >= n3)

printf("The biggest of the 3 numbers entered is:%.2f ", n1);

if (n2 >= n1 && n2 >= n3)

printf("The biggest of the 3 numbers entered is:%.2f ", n2);

if (n3 >= n1 && n3 >= n2)

printf("The biggest of the 3 numbers entered is:%.2f ", n3);

}

**14.**   **Write a program to accept the marks scored in three subjects; determine the sum and average of the entered marks. Grade is awarded based on following criteria.**

If average is < 35 -- “C”; >35 and <60 -- “B”; Otherwise -- “A”

Expected output:

*Enter the marks scored in 1st subject:*

*40*

*Enter the marks scored in 2nd subject:*

*60*

*Enter the marks scored in 3rd subject:*

*80*

*Total marks: 180*

*Average is: 60.0*

*Grade: “B”*

**FOR Loop**

**Solution**

**#include <stdio.h>**

**int main() {**

**int n, i;**

**float num[100], sum = 0.0, avg;**

**printf("Enter the numbers of subjects: ");**

**scanf("%d", &n);**

**while (n > 100 || n < 1) {**

**printf("Error! number should in range of (1 to 100).\n");**

**printf("Enter the number again: ");**

**scanf("%d", &n);**

**}**

**for (i = 0; i < n; ++i) {**

**printf("%d. Enter number: \n", i + 1);**

**scanf("%f", &num[i]);**

**sum =+ num[i];**

**}**

**avg = sum / n;**

**printf("Total marks = %d", sum);**

**printf("Average = %.2f", avg);**

**return 0;**

**}**

**15.**   **Write a program to generate the first 'N' natural numbers. Accept the value of 'N' from the user.**

Expected output:

*Enter the number of natural numbers to be generated:*

*5*

*First 5 natural numbers are : 1 2 3 4 5*

Solution

#include<stdio.h>

int main()

{

int n,i;

printf("Enter a number:");

scanf("%d",&n);

printf("First %d natural numbers are:\n",n);

for(i=1;i<=n;i++)

{

printf("%d ",i);

}

return 0;

}

**16.**   **Write a program to accept a number and determine whether it is a prime number or not.**

Expected output:

*Enter any number:*

*9*

*The entered number 9 is not a prime number*

*Enter any number:*

*7*

*The entered number 7 is a prime number*

Solution

#include <stdio.h>

int main() {

int n, i, flag = 0;

printf("Enter a positive integer: ");

scanf("%d", &n);

if (n == 0 || n == 1)

flag = 1;

for (i = 2; i <= n / 2; ++i) {

if (n % i == 0) {

flag = 1;

break;

}

}

if (flag == 0)

printf("%d is a prime number.", n);

else

printf("%d is not a prime number.", n);

return 0;

}

**17.**   **Write a program to generate the first 'N' natural numbers and print them in descending order.**

Expected output:

*Enter the number of natural numbers to be generated:*

*5*

*The first 5 natural numbers in descending order are: 5 4 3 2 1*

Solution

#include<stdio.h>

int main()

{

int n,i,t,r,sum;

printf("Enter a number:");

scanf("%d",&n);

printf("First %d natural numbers are:\n",n);

for(i=1;i<=n;i++)

{

printf("%d ",i);

}

printf("Revs %d natural numbers are:\n",n);

for(i=5;i<=n;--i)

{

printf("%d ",i);

}

return 0;

}

18.    **Write a program to accept the lower bound number and the upper bound number from the user and print the prime numbers between them.**

Expected output:

*Enter the lower bound value:*

*5*

*Enter the upper bound value:*

*15*

*The prime numbers between 5 and 15 are: 5 7 11 13*

Solution

#include <stdio.h>

int main()

{

int a, b, i, j, flag;

printf("Enter lower bound of the interval: ");

scanf("%d", &a);

printf("\nEnter upper bound of the interval: ");

scanf("%d", &b);

printf("\nPrime numbers between %d and %d are: ", a, b);

for (i = a; i <= b; i++) {

if (i == 1 || i == 0)

continue;

flag = 1;

for (j = 2; j <= i / 2; ++j) {

if (i % j == 0) {

flag = 0;

break;

}

}

if (flag == 1)

printf("%d ", i);

}

return 0;

}

**19.**   **Write a program to accept a number and print the Fibonacci series up to the entered number.**

Expected output:

*Enter the upper bound number to generate the Fibonacci numbers:*

*8*

*Fibonacci series up to the entered number is: 0 1 1 2 3 5 8*

Solution

#include <stdio.h>

int main() {

int i, n;

int t1 = 0, t2 = 1;

int nextTerm = t1 + t2;

printf("Enter upper bound of the interval: ");

scanf("%d", &n);

printf("Fibonacci Series: %d, %d, ", t1, t2);

for (i = 3; i <= n; ++i) {

printf("%d, ", nextTerm);

t1 = t2;

t2 = nextTerm;

nextTerm = t1 + t2;

}

return 0;

}

**20.**   **Write a program to accept a number from the user and print its multiplication table (upto “times 10”).**

Expected output:

*Enter the number to generate its multiplication table:*

*19*

*Multiplication table for 19 is :*

*19 \* 1 = 19*

*19 \* 2 = 38*

*…..............*

*…..............*

*19\* 10 = 190*

solution

#include <stdio.h>

int main() {

int n, i;

printf("Enter an integer: ");

scanf("%d", &n);

for (i = 1; i <= 10; ++i) {

printf("%d \* %d = %d \n", n, i, n \* i);

}

return 0;

}

**21.**   **Write a program to accept a number and find its factorial.**

Expected output:

*Enter any number:*

*5*

*The factorial of 5 is 120*

(Hint: 5! = 5 \* 4 \* 3 \* 2 \* 1)

solutiion

#include<stdio.h>

int main()

{

int i,fact=1,number;

printf("Enter a number: ");

scanf("%d",&number);

for(i=1;i<=number;i++){

fact=fact\*i;

}

printf("Factorial of %d is: %d",number,fact);

return 0;

}

**22.**   **Write a program to accept a number “n” from the user; then display the sum of the series 1+1/2+1/3+……….+1/n.**

**Solution**

#include<stdio.h>

int main()

{

int num,i,sum=0;

printf("Input any number: ");

scanf("%d",&num);

printf("1 + ");

for(i=2;i<=num-1;i++)

printf(" 1/%d +",i);

for(i=1;i<=num;i++)

sum = sum + i;

printf(" 1/%d",num);

printf("\nSum = 1/%d",sum+1/num);

return 0;

}

**23.**   **Write a program to accept a number “n” from the user; then display the series 1,3,5,7,9,…,n and find the sum of the numbers in this series.**

**Solution**

#include <stdio.h>

void main()

{

int i,n,sum=0;

printf("Input number of terms : ");

scanf("%d",&n);

printf("\nThe odd numbers are :");

for(i=1;i<=n;i++)

{

printf("%d ",2\*i-1);

sum+=2\*i-1;

}

printf("\nThe Sum of odd Natural Number upto %d terms : %d \n",n,sum);

}

**24.**   **Write a program to accept a number “n” from the user; find the sum of the series 1/23+1/33+1/43……..+1/n3**

**Write a program to generate following patterns.**

**25.**

1

2 3

4 5 6 7

8 9 10 11

#include <stdio.h>

int main()

{

int n;

scanf("%d", &n);

int num = 1;

for (int i = 1; i <= n; i++)

{

for (int j = 1; j <= i; ++j)

{

printf("%d ", num);

++num;

}

printf("\n");

}

return 0;

}

**26.**

1 2 3

4 5 6

7 8 9

Solution

**27.**

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

#include <stdio.h>

int main()

{

int n;

scanf("%d", &n);

for (int i = 1; i <= n; ++i)

{

for (int j = 1; j <= i; ++j)

{

printf("%d ", j);

}

printf("\n");

}

return 0;

}

**28.**

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

int main()

{

int i,j;

for(i=5;i>=1;i-=1)

{

for(j=1;j<=i;j++)

{

printf("%d",j);

}

printf("\n");

}

return 0;

}

**29.**

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

#include <stdio.h>  
  
int main()  
{  
    int i, j;  
    for(i=1;i<=5;i++)  
    {  
        for(j=1;j<=i;j++)  
        {  
            printf("%d",j);  
        }  
        printf("\n");  
    }  
  
    return 0;  
}

**30.**

1

1 2 1

1 2 3 2 1

1 2 3 4 3 2 1

1 2 3 4 5 4 3 2 1

int main()

{

int i,j;

for(i=1;i<=4;i++)

{

for(j=1;j<=i;j++)

printf("%d",j);

for(j=i-1;j>=1;j--)

printf("%d",j);

printf("\n");

}

return 0;

}

**31.**

19 38 57

76 95 114

133 152 171

**32.**

A B C

D E F

G H I

**33.**

1 1

1 2 2 1

1 2 3 3 2 1

1 2 3 4 3 2 1

**34.**

19 0 0

0 19 0

0 0 19

**35.**

\* \* \* \* \* \* \* \* \*

             \*

             \*

             \*

             \*

             \*

\* \* \* \* \* \* \* \* \*

#include<stdio.h>

void printI()

{

int i, j ,height;

for (i = 0; i < height; i++) {

for (j = 0; j < height; j++) {

if (i == 0 || i == height - 1)

printf("\*");

else if (j == height / 2)

printf("\*");

else

printf(" ");

}

printf("\n");

}

}

**36.**

**@ @ @ @**

**@           @**

**@ @ @ @**

**@           @**

**@           @**

#include<stdio.h>

void printI()

{

int i, j ,height;

int n = width / 2, i, j;

for (i = 0; i < height; i++) {

for (j = 0; j < height; j++) {

if (i == 0 || i == (width - n)

|| (i == height / 2 && j > n

&& j < (width - n)))

printf("@");

else

printf(" ");

}

printf("\n");

n--;

}

}

**37.**

\* \* \* \* \* \* \*

    \*              \*

    \*              \*

    \*              \*

\* \* \* \* \* \* \* \* \* \* \* \*

\*                 \*

\*                 \*

\*                 \*

                   \* \* \* \* \* \* \*

#include<stdio.h>

int main()

{

int i,j,n;

printf("Enter Swastik Size(n):");

scanf("%d",&n);

printf("\* ");

for(i=0; i<n-2; i++)

printf(" ");

for(i=0; i<n; i++)

printf("\* ");

printf("\n");

for(j=0; j<n-2; j++)

{

printf("\* ");

for(i=0; i<n-2; i++)

printf(" ");

printf("\* \n");

}

for(i=0; i<n\*2-1; i++)

printf("\* ");

printf("\n");

for(j=0; j<n-2; j++)

{

for(i=0; i<=n-2; i++)

printf(" ");

printf("\* ");

for(i=0; i<n-2; i++)

printf(" ");

printf("\* \n");

}

for(i=0; i<n; i++)

printf("\* ");

for(i=0; i<n-2; i++)

printf(" ");

printf("\* ");

return 0;

}

**38.**   **Write a program to find the biggest, smallest and sum of the elements in the given 3 X 3 matrix.**

5 6 7

4 5 6

5 6 7

**39.**

1 2 3 4 5  
5 1 2 3 4  
4 5 1 2 3  
3 4 5 1 2  
2 3 4 5 1

**40.**

1 2 3 4  
5 6 7  
8 9  
10

**While – loop**

**41.**   **Write a program to accept a number from the user and count the number of digits in the number.**

Expected output:

*Enter any number:*

*14567*

*The number of digits in the entered number is 5*

Solution

#include <stdio.h>

int main() {

long long n;

int count = 0;

printf("Enter an integer: ");

scanf("%lld", &n);

do {

n /= 10;

++count;

} while (n != 0);

printf("Number of digits: %d", count);

}

**42.**   **Write a program to accept a number from the user and find the sum of digits in the entered number.**

Expected output:

*Enter any number:*

*14567*

*The sum of digits of the entered number is 22*

Solution

#include <stdio.h>

int main()

{

int n, t, sum = 0, remainder;

printf("Enter an integer\n");

scanf("%d", &n);

t = n;

while (t != 0)

{

remainder = t % 10;

sum = sum + remainder;

t = t / 10;

}

printf("Sum of digits of %d = %d\n", n, sum);

return 0;

}

**43.**   **Write a program to accept a number from the user and find the reverse of the entered number.**

Expected output:

*Enter any number:*

*45646*

*Reverse of the entered number is 64654*

Solution

#include <stdio.h>

int main() {

int n, reverse = 0, remainder;

printf("Enter an integer: ");

scanf("%d", &n);

while (n != 0) {

remainder = n % 10;

reverse = reverse \* 10 + remainder;

n /= 10;

}

printf("Reversed number = %d", reverse);

return 0;

}

**44.**   **Write a program to accept a number from the user and determine whether it is an Armstrong number or not.**

(Example: 153 is an Armstrong number 1^3 + 5 ^3 +3 ^3 =153)

Solution

#include <math.h>

#include <stdio.h>

int main() {

int num, originalNum, remainder, n = 0;

float result = 0.0;

printf("Enter an integer: ");

scanf("%d", &num);

originalNum = num;

for (originalNum = num; originalNum != 0; ++n) {

originalNum /= 10;

}

for (originalNum = num; originalNum != 0; originalNum /= 10) {

remainder = originalNum % 10;

result += pow(remainder, n);

}

if ((int)result == num)

printf("%d is an Armstrong number.", num);

else

printf("%d is not an Armstrong number.", num);

return 0;

}

**45.**   **Write a program to accept a number from the user and calculate the sum of digits of the number; repeat the operation till the sum gets to be a single digit number.**

Expected output:

*Enter any number:*

*9981*

*Single digit sum is: 9*

(Hint: 9+9+8+1 = 27; 2+7 = 9)

Solution

Solution

#include <stdio.h>

int main()

{

int n, t, sum = 0, remainder;

printf("Enter an integer\n");

scanf("%d", &n);

t = n;

while (t != 0)

{

remainder = t % 10;

sum = sum + remainder;

t = t / 10;

}

printf("Sum of digits of %d = %d\n", n, sum);

return 0;

}

**46.**   **Write a program to accept a number from the user and count the number of prime digits.**

Expected output:

*Enter any number:*

*97512*

*Number of prime digits in the entered number is 3*

Solution

#include<stdio.h>

void main(){

int arr[100],i,a,j,b,count=0;

printf("Enter size of an array:");

scanf("%d",&a);

printf("Enter array elements:");

for (i=0;i<a;i++){

scanf("%d",&arr[i]);

}

printf("All prime list is:");

for(i=0;i<a;i++){

j=2;

b=1;

while(j<arr[i]){

if(arr[i]%j==0){

b=0;

break;

}

j++;

}

if(b==1){

count=count+1;

printf("%d ",arr[i]);

}

}

printf("\nthe total prime number is %d ",count);

}

**47.**   **Write a program to accept a number and find the factorial of the number (using *while* loop).**

#include <stdio.h>

int main()

{

int n,i,f;

f=i=1;

printf("Enter a Number to Find Factorial: ");

scanf("%d",&n);

while(i<=n)

{

f\*=i;

i++;

}

printf("The Factorial of %d is : %d",n,f);

return 0;

}

**48.**   **Write a program to accept a four digit number from the user and display its denomination.**

*Example: 5698*

*Output: 5\*1000 =5000*

*6\*100 =600*

*9\*10 =90*

*8\*1 =8*

Solution

#include <stdio.h>

#define SIZE 6

int main()

{

int amount, notes;

int denominations[SIZE] = {1000, 100, 10, 1};

printf("Enter amount: \n");

scanf("%d", &amount);

printf("\n");

for (int i = 0; i < SIZE; i++)

{

notes = amount / denominations[i];

if (notes)

{

amount = amount % denominations[i];

printf("%5d \* %5d = %5d \n", notes, denominations[i],

notes \* denominations[i]);

}

}

return 0;

}

**49.**   **Write a program to accept a five digit number from the user, increment each digit by one and display the number (digit 9 gets incremented to 0).**

*Example:*

*Input: 14385*

*Output: 25496*

Solution

#include <stdio.h>

void incrementArray(int[]);

void main()

{

int i;

int array[5] = { 1, 4, 3, 8,5};

incrementArray(array);

for (i = 0; i < 5; i++)

printf("%d\t", array[i]);

}

void incrementArray(int arr[])

{

int i;

for (i = 0; i < 5; i++)

arr[i]++;

}

**50.**   **Write a program to accept 2 numbers “m” and “n” from the user and determine m^n (without using predefined functions).**

**Switch statement**

#include <stdio.h>

int main()

{

int m,n,m1;

m1=1,2;

switch(m1){

case 1:printf("enter the value of m");

scanf("%d",&m);

break;

case 2: printf("enter the value of n");

scanf("%d",&n);

break;

case 3: return(0);

}

}

**51.**   **Write a program to accept a character from the user and check whether it is a vowel or consonant using *switch* statement.**

#include <stdio.h>

int main() {

char c;

int lowercase\_vowel, uppercase\_vowel;

printf("Enter an alphabet: ");

scanf("%c", &c);

lowercase\_vowel = (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u');

uppercase\_vowel = (c == 'A' || c == 'E' || c == 'I' || c == 'O' || c == 'U');

if (lowercase\_vowel || uppercase\_vowel)

printf("%c is a vowel.", c);

else

printf("%c is a consonant.", c);

return 0;

}

**52.**   **Write a program to accept two numbers num1, num2 and an operator. Simulate the calculator using *switch* statement.**

*Enter the 1st Operand num1:*

*10*

*Enter the 2nd Operand num2:*

*20*

*1. add 2. mul 3. div 4. mod 5. div*

*Enter the operator*

*1*

*The sum of 10 and 20 is 30*

Solution

#include <stdio.h>

int main() {

char op;

double first, second;

printf("Enter an operator (+, -, \*, /): ");

scanf("%c", &op);

printf("Enter two operands: ");

scanf("%lf %lf", &first, &second);

switch (op) {

case '+':

printf("%.1lf + %.1lf = %.1lf", first, second, first + second);

break;

case '-':

printf("%.1lf - %.1lf = %.1lf", first, second, first - second);

break;

case '\*':

printf("%.1lf \* %.1lf = %.1lf", first, second, first \* second);

break;

case '/':

printf("%.1lf / %.1lf = %.1lf", first, second, first / second);

break;

default:

printf("Error! operator is not correct");

}

return 0;

}

**53.**   **Write a program to generate the following output**

*1 2*

*1 3*

*2 1*

*2 3*

*3 1*

*3 2*

(Hint: Use *continue* statement)

**54.**   **Write a program to add the first 7 terms of the following series using a *for* loop:**

**1/1!+2/2!+3 /3!+....**

#include <stdio.h>

void main()

{

int i,n,sum=0;

printf("Input number of terms : ");

scanf("%d",&n);

printf("\nThe odd numbers are :");

for(i=1;i<=n;i++)

{

printf("%d ",2\*i-1);

sum+=2\*i-1;

}

printf("\nThe Sum of odd Natural Number upto %d terms : %d \n",n,sum);

}

**55.**   **Write a program to fill the entire screen with a smiling face. The smiling face has an ASCII value 1.**

#include<stdio.h>

void main()

{

int i;

char ch=1;

for(i=0;i<2000;i++)

{

printf("%c", ch);

}

}