**ADDITION, SUBTRACTION, MULTIPLICATION, DIVISION**

#include<stdio.h>

int Sum()

{

int num1,num2,sum;

printf("Enter 1st no. \n");

scanf("%d", &num1);

printf("Enter 2nd no. \n");

scanf("%d", &num2);

sum = num1 + num2;

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

}

int Sub()

{

int num1,num2,sub;

printf("Enter 1st no. \n");

scanf("%d", &num1);

printf("Enter 2nd no. \n");

scanf("%d", &num2);

sub = num1 - num2;

printf("Sub = %d \n", sub);

}

int Multi()

{

int num1,num2,Multi;

printf("Enter 1st no. \n");

scanf("%d", &num1);

printf("Enter 2nd no. \n");

scanf("%d", &num2);

Multi = num1 \* num2;

printf("Multi = %d \n", Multi);

}

int Div()

{

int num1,num2,Div;

printf("Enter 1st no. \n");

scanf("%d", &num1);

printf("Enter 2nd no. \n");

scanf("%d", &num2);

Div = num1 / num2;

printf("Div = %d \n", Div);

}

int main()

{

Sum();

Sub();

Multi();

Div();

return 0;

}

OUTPUT :- Enter 1st no.

15

Enter 2nd no.

5

Sum = 20

Enter 1st no.

20

Enter 2nd no.

10

Sub = 10

Enter 1st no.

10

Enter 2nd no.

10

Multi = 100

Enter 1st no.

100

Enter 2nd no.

10

Div = 10

**Find greatest numbers between the given two numbers**

#include<stdio.h>

int main()

{

int A,B;

printf("Enter first number :- \n");

scanf("%d", &A);

printf("Enter second number :- \n");

scanf("%d", &B);

if(A>B)

{

printf("A is grater than B \n");

}

else{

printf("B is grater than A \n");

}

return 0;

}

OUTPUT :-

Enter first number :-

1000

Enter second number :-

100

A is greater than B

**SIMPLE INTEREST**

#include<stdio.h>

int main()

{

int P,T,R,SI;

printf("Enter Principal Amount :- \n");

scanf("%d", &P);

printf("Enter Total Amount :- \n");

scanf("%d", &T);

printf("Enter Rate of interest :- \n");

scanf("%d", &R);

SI = (P \* T \* R)/100;

printf("Simple Interest is :- %d \n", SI);

return 0;

}

OUTPUT:-

Enter Principal Amount :-

100

Enter Total Amount :-

1000

Enter Rate of interest :-

10

Simple Interest is :- 10000

SWAPPING

*#include*<stdio.h>

int main()

{

int no1;

int no2;

int temp;

printf("Enter the first no1 = \n");

scanf("%d", &no1);

printf("Enter the second no2 = \n");

scanf("%d", &no2);

temp = no1;

no1 = no2;

no2 = temp;

printf("no1 after swapping :- %d\n", no1);

printf("no2 after swapping :- %d\n", no2);

*return* 0;

}

OUTPUT -

Enter the first no1 =

101

Enter the second no2 =

100

no1 after swapping :- 100

no2 after swapping :- 10

SWAPPING WITHOUT THIRD VARIABLE

*#include* <stdio.h>

int main()

{

int a, b;

printf("Enter a: ");

scanf("%d", &a);

printf("Enter b: ");

scanf("%d", &b);

a = a - b;

b = a + b;

a = b - a;

printf("After swapping, a = %d\n", a);

printf("After swapping, b = %d", b);

*return* 0;

}

OUTPUT -

Enter a: 10

Enter b: 100

After swapping, a = 100

After swapping, b = 10

AGGREGATE AND PERCENTAGE

*#include* <stdio.h>

int main()

{

float eng, phy, chem, math, plb;

float total, average, percentage;

printf("Enter marks of five subjects: :- ");

scanf("%f%f%f%f%f", &eng, &phy, &chem, &math, &plb);

total = eng + phy + chem + math + plb;

average = total / 5.0;

percentage = (total / 500.0) \* 100;

printf("Total marks = %f\n", total);

printf("Average marks = %f\n", average);

printf("Percentage = %f", percentage);

*return* 0;

}

OUTPUT -

Enter marks of five subjects: :- 10 20 30 40 50

Total marks = 150.000000

Average marks = 30.000000

Percentage = 30.000000

PERCENTAGE\_ALLOCATION

*#include*<stdio.h>

int main()

{

int plb, phy, m1, icc, eel, total;

float percentage;

printf("ENTER THE MARKS OBTAINED IN PHYSICS :- \n");

scanf("%d", &phy);

printf("ENTER THE MARKS OBTAINED IN PLB :- \n");

scanf("%d", &plb);

printf("ENTER THE MARKS OBTAINED IN MATHS :- \n");

scanf("%d", &m1);

printf("ENTER THE MARKS OBTAINED IN ICC :- \n");

scanf("%d", &icc);

printf("ENTER THE MARKS OBTAINED IN EEL :-\n");

scanf("%d", &eel);

total = phy + plb + m1 + icc + eel;

printf("TOTAL MARKS SCORED :- %d \n",total);

percentage = ((total \* 100)/500);

printf("PERCENTAGE SCORED :- %.2f \n",percentage);

*if*(percentage>=50 && percentage<=60)

{

printf("D \n");

}

*else* *if* (percentage>60 && percentage<=70)

{

printf("C \n");

}

*else* *if* (percentage>70 && percentage<=80)

{

printf("B \n");

}

*else* *if* (percentage>80 && percentage<=90)

{

printf("A\n");

}

*else*

{

printf("FAILED \n");

}

*return* 0;

}

OUTPUT :-

ENTER THE MARKS OBTAINED IN PHYSICS :-

90

ENTER THE MARKS OBTAINED IN PLB :-

85

ENTER THE MARKS OBTAINED IN MATHS :-

97

ENTER THE MARKS OBTAINED IN ICC :-

52

ENTER THE MARKS OBTAINED IN EEL :-

22

TOTAL MARKS SCORED :- 346

PERCENTAGE SCORED :- 69.00

C

SWITCHCASE\_WEEK

*#include* <stdio.h>

int main()

{

int week;

printf("Enter week number(1-7): ");

scanf("%d", &week);

*switch*(week)

{

*case* 1:

printf("Monday");

*break*;

*case* 2:

printf("Tuesday");

*break*;

*case* 3:

printf("Wednesday");

*break*;

*case* 4:

printf("Thursday");

*break*;

*case* 5:

printf("Friday");

*break*;

*case* 6:

printf("Saturday");

*break*;

*case* 7:

printf("Sunday");

*break*;

*default*:

printf("Invalid input! Please enter week number between 1-7.");

}

*return* 0;

}

OUTPUT :-

Enter week number(1-7): 7

Sunday

Enter week number(1-7): 9

Invalid input! Please enter week number between 1-7.

SWITCHCASE\_ADD\_SUB\_MUL\_DIV

*// EXPERIMENT - 1*

*#include* <stdio.h>

int main()

{

char ope;

int a,b;

printf("Enter the operation: ");

scanf("%c", &ope);

printf("Enter two numbers: ");

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

*switch*(ope)

{

*case* '+':

printf("ADDITION :- %d \n", a+b);

*break*;

*case* '-':

printf("SUBTRACTION :- %d \n", a-b);

*break*;

*case* '\*':

printf("MULTIPLICATION :- %d \n", a\**b*);

*break*;

*case* '/':

printf("DIVISION :- %d \n", a/b);

*break*;

*default*:

printf("Invalid input! Please enter OPERATIONS among +, -, \*, /.");

}

*return* 0;

}

OUTPUT :-

Enter the operation: \*

Enter two numbers: 10 10

MULTIPLICATION :- 100

Enter the operation: %

Enter two numbers: 20 10

Invalid input! Please enter OPERATIONS among +, -, \*, /.

SWITCASE\_VOWELS

*#include* <stdio.h>

int main()

{

char vowels;

printf("Enter vowels: ");

scanf("%c", &vowels);

*switch*(vowels)

{

*case* 'a':

printf("IT IS A VARIABLE");

*break*;

*case* 'e':

printf("IT IS A VARIABLE");

*break*;

*case* 'i':

printf("IT IS A VARIABLE");

*break*;

*case* 'o':

printf("IT IS A VARIABLE");

*break*;

*case* 'u':

printf("IT IS A VARIABLE");

*break*;

*default*:

printf("IT IS A CONSONANT");

}

*return* 0;

}

OUTPUT :-

Enter vowels: a

IT IS A VARIABLE

Enter vowels: g

IT IS A CONSONANT

SWITCHCASE\_OPTIONS

*#include*<stdio.h>

int main()

{

int plb, phy, m1, icc, eel, total, check;

float percentage;

printf("ENTER THE MARKS OBTAINED IN PHYSICS :- \n");

scanf("%d", &phy);

printf("ENTER THE MARKS OBTAINED IN PLB :- \n");

scanf("%d", &plb);

printf("ENTER THE MARKS OBTAINED IN MATHS :- \n");

scanf("%d", &m1);

printf("ENTER THE MARKS OBTAINED IN ICC :- \n");

scanf("%d", &icc);

printf("ENTER THE MARKS OBTAINED IN EEL :-\n");

scanf("%d", &eel);

printf("CHOOSE :-\n 1) TOTAL MARKS \n 2) PERCENTAGE \n");

scanf("%d", &check);

*switch*(check)

{

*case* 1:

total = phy + plb + m1 + icc + eel;

printf("TOTAL MARKS SCORED :- %d \n",total);

*break*;

*case* 2:

percentage = (((phy + plb + m1 + icc + eel) \* 100)/500);

printf("PERCENTAGE SCORED :- %.2f \n",percentage);

printf("PERCENTAGE = %.2f", &*percentage*);

*break*;

*default*:

printf("INVALID");

}

*return* 0;

}

OUTPUT :-

ENTER THE MARKS OBTAINED IN PHYSICS :-

50

ENTER THE MARKS OBTAINED IN PLB :-

50

ENTER THE MARKS OBTAINED IN MATHS :-

50

ENTER THE MARKS OBTAINED IN ICC :-

50

ENTER THE MARKS OBTAINED IN EEL :-

50

CHOOSE :-

1) TOTAL MARKS

2) PERCENTAGE

*#include* <stdio.h>

int main() {

int pass;

int user;

printf("\nInput the PASSWORD (numeric characters only): ");

scanf("%d", &pass);

*switch* (pass)

{

*case* 1234:

printf("Correct password\n");

*break*;

*default*:

printf("Wrong password, try another\n");

*break*;

}

printf("\nInput the USER-ID (numeric characters only): ");

scanf("%d", &pass);

*switch* (pass)

{

*case* 4321:

printf("Correct userid\n");

*break*;

*default*:

printf("Wrong userid, try another\n");

*break*;

}

}

OUTPUT:-

Input the PASSWORD (numeric characters only): 1234

Correct password

Input the USER-ID (numeric characters only): 2345

Wrong userid, try another

FOR LOOP

*#include*<stdio.h>

int main()

{

int i;

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

{

printf("The number is %d \n", i);

}

*return* 0;

}

OUTPUT :-

The number is 1

The number is 2

The number is 3

The number is 4

The number is 5

The number is 6

The number is 7

The number is 8

The number is 9

The number is 10

FOR LOOP\_EVEN-ODD

*#include*<stdio.h>

int main()

{

int i;

*for*(i=2; i<=20; i+=2)

{

printf("Even numbers - %d \n", i);

}

*for*(i=1; i<=20; i+=2)

{

printf("Odd numbers - %d \n", i);

}

*return* 0;

}

OUTPUT:-

Even numbers - 2

Even numbers - 4

Even numbers - 6

Even numbers - 8

Even numbers - 10

Even numbers - 12

Even numbers - 14

Even numbers - 16

Even numbers - 18

Even numbers - 20

Odd numbers - 1

Odd numbers - 3

Odd numbers - 5

Odd numbers - 7

Odd numbers - 9

Odd numbers - 11

Odd numbers - 13

Odd numbers - 15

Odd numbers - 17

Odd numbers - 19

FOR LOOP\_MULTIPLICATIONTABLE

*#include*<stdio.h>

int main()

{

int i, n;

printf("Enter the number for which you want it's MULTIPLICATION TABLE :- \n");

scanf("%d", &n);

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

{

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

}

*return* 0;

}

OUTPUT:-

Enter the number for which you want it's MULTIPLICATION TABLE :-

8

8 \* 1 = 8

8 \* 2 = 16

8 \* 3 = 24

8 \* 4 = 32

8 \* 5 = 40

8 \* 6 = 48

8 \* 7 = 56

8 \* 8 = 64

8 \* 9 = 72

8 \* 10 = 80

FOR LOOP\_ALPHABETS

*#include*<stdio.h>

int main()

{

char i;

*for*(i='A'; i<='Z'; i++)

{

printf(" Alphabet = %c \n", i);

}

*return* 0;

}

OUTPUT:-

Alphabet = A

Alphabet = B

Alphabet = C

Alphabet = D

Alphabet = E

Alphabet = F

Alphabet = G

Alphabet = H

Alphabet = I

Alphabet = J

Alphabet = K

Alphabet = L

Alphabet = M

Alphabet = N

Alphabet = O

Alphabet = P

Alphabet = Q

Alphabet = R

Alphabet = S

Alphabet = T

Alphabet = U

Alphabet = V

Alphabet = W

Alphabet = X

Alphabet = Y

Alphabet = Z

FOR LOOP\_SUMOF-N-NATURAL-NOS

*#include*<stdio.h>

int main()

{

int sum = 0, a, b;

printf("enter a NATURAL NUMBER :- \n");

scanf("%d", &a);

*for*(b = 1; b<= a ; b++)

{

sum = sum + b;

}

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

*return* 0;

}

OUTPUT:-

enter a NATURAL NUMBER :-

10

Sum = 55

BITWISE\_OPERATORS

*#include*<stdio.h>

int main()

{

unsigned int a = 1, b = 0;

signed int c = -8, d = 4;

printf("THE UNSIGNED INTEGERS ARE :- %d and %d \n", a, b);

printf("THE SIGNED INTEGERS ARE :- %d and %d \n", c, d);

*// & (bitwise AND)*

printf("a = %u, b = %u \n", a, b);

printf("a & b = %u \n", a & b);

*// |(bitwise OR)*

printf("a|b = %u \n", a | b);

*// ^ (bitwise XOR)*

printf("a^b = %u \n", a ^ b);

*// ~ (bitwise NOT)*

printf("~a = %u \n", a = !a);

*// << (left shift)*

printf("b<<1 = %u \n", b << 1);

*// >> (right shift)*

printf("b>>1 = %u \n", b >> 1);

*return* 0;

}

OUTPUT:-

THE UNSIGNED INTEGERS ARE :- 1 and 0

THE SIGNED INTEGERS ARE :- -8 and 4

a = 1, b = 0

a & b = 0

a|b = 1

a^b = 1

~a = 0

b<<1 = 0

b>>1 = 0

ELIGIBILITY USING STRING

*#include* <stdio.h>

int main()

{

char nationality[20];

int age;

*// Ask for nationality*

printf("Enter your nationality (Indian or Other): ");

scanf("%s", &nationality);

*// Check if nationality is Indian*

*if* (nationality[0] == 'I' && nationality[1] == 'n' && nationality[2] == 'd' &&

nationality[3] == 'i' && nationality[4] == 'a' && nationality[5] == 'n' &&

nationality[6] == '\0')

{

*// If Indian, ask for age*

printf("Enter your age: ");

scanf("%d", &age);

*// Check age for voting eligibility*

*if* (age >= 18) {

printf("You are eligible for voting.\n");

} *else* {

printf("You are not eligible for voting.\n");

}

}

*else* {

printf("You are not eligible for voting.\n");

}

*return* 0;

}

OUTPUT:-

Enter your nationality (Indian or Other): Indian

Enter your age: 20

You are eligible for voting.

Enter your nationality (Indian or Other): Indian

Enter your age: 15

You are not eligible for voting.

Enter your nationality (Indian or Other): Korea

You are not eligible for voting.

ELIGIBILITY USING CHARACTER

*#include* <stdio.h>

int main()

{

int age;

char nationality;

printf("Enter your age: ");

scanf("%d", &age);

printf("Are you Indian? (Y or N): ");

scanf(" % c", &nationality);

*if* (age >= 18 && (nationality == 'Y' || nationality == 'N'))

{

printf("You are eligible for voting.\n");

}

*else*

{

printf("You are not eligible for voting.\n");

}

*return* 0;

}

*#include* <stdio.h>

int main()

{

int age;

char nationality;

printf("Enter your age: ");

scanf("%d", &age);

printf("Are you Indian? (Y or N): ");

scanf(" %c", &nationality); *// Removed space before 'c'*

*// Check if age is 18 or older and nationality is 'Y' or 'N'*

*if* (age >= 18 && (nationality == 'Y' || nationality == 'N'))

{

printf("You are eligible for voting.\n");

}

*else*

{

printf("You are not eligible for voting.\n");

}

*return* 0;

}

OUTPUT:-

Enter your age: 18

Are you Indian? (Y or N): Y

You are eligible for voting.

Enter your age: 17

Are you Indian? (Y or N): N

You are not eligible for voting.

*#include*<stdio.h>

int main()

{

*// Array for INTEGER*

int I[5] = {1, 2, 3, 4, 5};

int i;

*for*(i = 0; i <= 4; i++)

{

printf("%d \n", I[i]);

}

*// Array for CHARACTER*

char C[5] = {'A', 'B', 'C', 'D', 'E'};

int c;

*for*(c = 0; c <= 4; c++)

{

printf("%c \n", C[c]);

}

*// Array for FLOAT*

float F[5] = {10.05, 20.05, 30.05, 40.05, 50.05};

int f;

*for*(f = 0; f <= 4; f++)

{

printf("%.2f \n", F[f]);

}

*// Array for DOUBLE*

double D[5] = {10.005, 20.005, 30.005, 40.005, 50.005};

int d;

*for*(d = 0; d <= 4; d++)

{

printf("%lf \n", D[d]);

}

*return* 0;

}

OUTPUT:-

1

2

3

4

5

A

B

C

D

E

10.05

20.05

30.05

40.05

50.05

10.005000

20.005000

30.005000

40.005000

50.005000

FACTORIAL

*#include* <stdio.h>

int main() {

int n, i;

int fact = 1;

printf("Enter an integer: ");

scanf("%d", &n);

*if* (n < 0)

{

printf("Error! Factorial of a negative number doesn't exist.");

}

*else*

{

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

{

fact \*= i;

}

printf("Factorial of %d = %d", n, fact);

}

*return* 0;

}

OUTPUT:-

Enter an integer: 5

Factorial of 5 = 120

FIBONACCI

*#include* <stdio.h>

int main() {

int i, n;

int t1 = 0, t2 = 1;

int nextTerm = t1 + t2;

printf("Enter the number of terms: ");

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;

}

OUTPUT:-

Enter the number of terms: 10

Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34

LEAP YEAR

*#include*<stdio.h>

int main()

{

int year;

printf("Enter the YEAR:- \n");

scanf("%d", &year);

*if*(year % 400 == 0)

{

printf("The Year is LEAP YEAR");

}

*else* *if*(year % 100 == 0)

{

printf("The Year is NOT LEAP YEAR");

}

*else* *if*(year % 4 == 0)

{

printf("The Year is LEAP YEAR");

}

*else*

{

printf("The Year is NOT LEAP YEAR");

}

*return* 0;

}

OUTPUT:-

Enter the YEAR:-

2016

The Year is LEAP YEAR

Enter the YEAR:-

2019

The Year is NOT LEAP YEAR

PATTERN

*#include*<stdio.h>

int pattern\_star()

{

int i, j;

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

{

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

{

printf("\*");

}

printf("\n");

}

};

int pattern\_nos()

{

int a, b;

*for*(a = 1; a <= 4; a++)

{

*for*(b = 1; b <= a; b++)

{

printf("%d", b);

}

printf("\n");

}

};

int main()

{

pattern\_star();

pattern\_nos();

*return* 0;

}

OUTPUT:-

\*

\*\*

\*\*\*

\*\*\*\*

1

12

123

1234

POINTER1

*#include*<stdio.h>

int main()

{

int a = 10;

int \*ptr = &a;

printf("%d \n",\*ptr);

printf("%d \n",\*&a);

printf("%d \n",ptr);

printf("%d \n",&a);

}

OUTPUT:-

10

10

1288183908

1288183908

PRIME NO USING FOR

*#include*<stdio.h>

int main()

{

int i;

int no;

int count = 0;

printf("Enter the NUMBER:- ");

scanf("%d", &no);

*for*(i=1; i<=no; i++)

{

*if*(no % i == 0)

{

count += 1;

}

}

*if*(no == 0 || no == 1)

{

printf("0 and 1 are not PRIME NUMBERS");

}

*else* *if*(count > 2)

{

printf("The entered number is NOT PRIME");

}

*else*

{

printf("The entered number is PRIME");

}

}

OUTPUT:-

Enter the NUMBER:- 31

The entered number is PRIME

Enter the NUMBER:- 4

The entered number is NOT PRIME

PRIMENO USING WHILE

*#include* <stdio.h>

int main() {

int i = 1;

int no;

int count = 0;

printf("Enter the NUMBER:- ");

scanf("%d", &no);

*while* (i <= no)

{

*if* (no % i == 0)

{

count += 1;

}

i++;

}

*if* (no == 0 || no == 1)

{

printf("0 and 1 are not PRIME NUMBERS\n");

}

*else* *if* (count > 2)

{

printf("The entered number is NOT PRIME\n");

}

*else*

{

printf("The entered number is PRIME\n");

}

*return* 0;

}

OUTPUT:-

Enter the NUMBER:- 31

The entered number is PRIME

Enter the NUMBER:- 4

The entered number is NOT PRIME

CALL BY VALUE

*#include*<stdio.h>

void change(int *num*)

{

printf("Before adding value inside function num = %d \n",*num*);

*num* = *num* + 100;

printf("After adding value inside function num = %d \n", *num*);

}

int main()

{

int x = 100;

printf("Before function call x = %d \n", x);

change(x);*//passing value in function*

printf("After function call x = %d \n", x);

*return* 0;

}

OUTPUT:-

Before function call x = 100

Before adding value inside function num = 100

After adding value inside function num = 200

After function call x = 100

CALL BY REFERENCE

*#include*<stdio.h>

void change(int \**num*)

{

printf("Before adding value inside function num = %d \n",\**num*);

(\**num*) += 100;

printf("After adding value inside function num = %d \n", \**num*);

}

int main()

{

int x = 100;

printf("Before function call x = %d \n", x);

change(&x);*//passing reference in function*

printf("After function call x = %d \n", x);

*return* 0;

}

OUTPUT:-

Before function call x = 100

Before adding value inside function num = 100

After adding value inside function num = 200

After function call x = 200

CALL BY VALUE-SWAP