Module 3.2

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# 1. WAP to make simple calculator (operation include Addition, Subtraction, Multiplication, Division, modulo)

#include <stdio.h>

Int main()

{

char operator;

float num1, num2, result;

printf(“Enter operator (+, -, \*, /, %%) : “);

scanf(“%c”, &operator);

printf(“Enter two operands: “);

scanf(“%f %f”, &num1, &num2);

switch(operator)

{

case ‘+’:

result = num1 + num2;

printf(“%.2f + %.2f = %.2f”, num1, num2, result);

break;

case ‘-‘:

result = num1 – num2;

printf(“%.2f - %.2f = %.2f”, num1, num2, result);

break;

case ‘\*’:

result = num1 \* num2;

printf(“%.2f \* %.2f = %.2f”, num1, num2, result);

break;

case ‘/’:

result = num1 / num2;

printf(“%.2f / %.2f = %.2f”, num1, num2, result);

break;

case ‘%’:

result = (int)num1 % (int)num2;

printf(“%.2f %% %.2f = %.2f”, num1, num2, result);

break;

default:

printf(“Invalid operator”);

}

return 0;

}

* **2. WAP to swap two numbers without using third variable.**

#include <stdio.h>

int main()

{

int a, b;

printf(“Enter two numbers to swap: “);

scanf(“%d %d”, &a, &b);

// swapping

a = a + b;

b = a – b;

a = a – b;

printf(“\nAfter swapping, a = %d and b = %d”, a, b);

return 0;

}

* **3. WAP to find number is even or odd using ternary operator.**

#include <stdio.h>

int main()

{

int num;

printf(“\nEnter a number: “);

scanf(“%d”, &num);

(num % 2 == 0) ? printf(“%d is even.”, num) : printf(“%d is odd.”, num);

return 0;

}

* **4. WAP to show**

1. **Monday to Sunday using switch case**

#include <stdio.h>

int main()

{

int day;

printf(“\n Enter the day of the week (1-7): “);

scanf(“%d”, &day);

switch(day)

{

case 1:

printf(“\nMonday”);

break;

case 2:

printf(“\nTuesday”);

break;

case 3:

printf(“\nWednesday”);

break;

case 4:

printf(“\nThursday”);

break;

case 5:

printf(“\nFriday”);

break;

case 6:

printf(“\nSaturday”);

break;

case 7:

printf(“\nSunday”);

break;

default:

printf(“\nInvalid day”);

break;

}

return 0;

}

1. **Vowel or Consontant using switch case.**

#include <stdio.h>

int main()

{

char ch;

printf(“\n Enter a character: “);

scanf(“%c”, &ch);

switch(ch)

{

case ‘a’:

case ‘e’:

case ‘I’:

case ‘o’:

case ‘u’:

printf(“\n Vowel”);

break;

case ‘A’:

case ‘E’:

case ‘I’:

case ‘O’:

case ‘U’:

printf(“\n Vowel”);

break;

default:

printf(“Consonant”);

break;

}

return 0;

}

* **4. Looping programs:**

1. **WAP to print 972 to 897 using for loop.**

#include <stdio.h>

int main()

{

int I;

for (I = 972; I >= 897; i--) {

printf(“\n%d”, i);

}

return 0;

}

1. **WAP to take 10 no. Input from user and find out …**

**-How many Even numbers are there**

**-How many odd numbers are there**

**-Sum of even numbers**

**-Sum of odd numbers WAP to print table up to given numbers**

#include <stdio.h>

int main()

{

int num, i , evencount = 0, oddcount = 0, evensum = 0, oddsum = 0;

// Taking 10 numbers as input

printf(“Enter 10 numbers:\n”);

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

{

scanf(“%d”, &num);

if (num % 2 == 0)

{

evencount++;

evensum += num;

}

else

{

oddcount++;

oddsum += num;

}

}

printf(“\nNumber of even numbers: %d”, evencount);

printf(“\nNumber of odd numbers: %d”, oddcount);

printf(“\nSum of even numbers: %d”, evensum);

printf(“\nSum of odd numbers: %d”, oddsum);

int n, j;

printf(“\nEnter a number to print its multiplication table: “);

scanf(“%d”, &n);

for (j = 1; j <= 10; j++)

{

printf(“\n%d x %d = %d", n, j, n\*j);

}

return 0;

}

* **5. WAP to print factorial of given number.**

#include <stdio.h>

int main() {

int num, i;

unsigned long long fact = 1;

printf("\nEnter a number : ");

scanf("%d", &num);

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

{

fact \*= i;

}

printf("\nFactorial of %d = %llu", num, fact);

return 0;

}

* **6. WAP to print number in reverse order e.g.: number = 64728 🡪 reverse = 82746**

#include <stdio.h>

int main() {

int num, reversed = 0;

printf(“Enter a number: “);

scanf(“%d”, &num);

while (num != 0)

{

reversed = reversed \* 10 + num % 10;

num /= 10;

}

printf(“\n Reversed number = %d”, reversed);

return 0;

}

* **7. Write a program to find out the max from given number (E.g., No: -1562. Max number is 6)**

#include <stdio.h>

int main() {

int num, max = 0;

printf(“\nEnter a number: “);

scanf(“%d”, &num);

while (num != 0)

{

int digit = num % 10;

if (digit > max)

{

max = digit;

}

num /= 10;

}

printf(“\n Maximum digit in the number = %d”, max);

return 0;

}

* **8. Write a program make a summation of given number (E.g., 1523 Ans: -11)**

#include <stdio.h>

int main() {

int num, sum = 0;

printf(“\nEnter a number: “);

scanf(“%d”, &num);

while (num != 0)

{

int digit = num % 10;

sum += digit;

num /= 10;

}

printf(“\nSummation of digits in the number = %d”, sum);

return 0;

}

* **9. Write a program you have to make a summation of first and last Digit. (E.g.,1234 Ans: - 5)**

#include <stdio.h>

int main() {

int num, first\_digit, last\_digit, sum;

printf(“\nEnter a number:”);

scanf(“%d”, &num);

while (first\_digit >= 10) {

first\_digit /= 10;

}

last\_digit = num % 10;

sum = first\_digit + last\_digit;

printf(“\nSum of first and last digits = %d”, sum);

return 0;

}

**Patterns :-**

#include <stdio.h>

int main()

{

int rows = 5;

for (int I = 1; I <= rows; i++)

{

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

{

if (j % 2 == 0)

{

printf(“0”);

}

else

{

printf(“1”);

}

}

printf(“\n”);

}

return 0;

}

**1**

**2 3**

**4 5 6**

**7 8 9 10**

**11 12 13 14 15**

#include <stdio.h>

int main()

{

int rows = 5;

int num = 1;

for (int I = 1; I <= rows; i++)

{

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

{

printf(“%d “, num);

num++;

}

printf(“\n”);

}

return 0;

}

**A**

**B C**

**D E F**

**G H I J**

**K L M N O**

#include <stdio.h>

int main()

{

int rows, I, j, count = 65;

printf(“Enter the number of rows: “);

scanf(“%d”, &rows);

for (I = 1; I <= rows; i++)

{

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

{

printf(“%c”, count);

count++;

}

printf(“\n”);

}

return 0;

}

**A**

**AB**

**ABC**

**ABCD**

**ABCDE**

#include <stdio.h>

int main()

{

int rows, I, j;

printf(“\nEnter the number of rows: “);

scanf(“%d”, &rows);

for (I = 1; I <= rows; i++)

{

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

{

printf(“%c”, ‘A’ + j – 1);

}

printf(“\n”);

}

return 0;

}