**TUTORIAL 1 SOLUTIONS**

**Question 1**

Write a C program that accomplish each of the following:

1. Prompt the user to enter an integer and store the value entered in variable X

#include <stdio.h>

int main()

{

int X;

printf("Enter an integer: ");

scanf("%d", &X);

return 0;

}

1. Prompt the user to enter an integer and if the value is not equal to 7, print “The variable number is not equal to 7.”

#include <stdio.h>

int main()

{

int Z;

printf("Enter an integer: ");

scanf("%d", &Z);

if (Z != 7)

{

printf("The variable number is not equal to 7\n");

}

return 0;

}

1. Print the message “This is a C program.” on one line.

#include <stdio.h>

int main()

{

printf("This is a C program\n");

return 0;

}

1. Print the message “This is a C program.” with each word on a separate line.

#include <stdio.h>

int main()

{

printf("This\nis\na\nC\nprogram\n");

return 0;

}

**Question 2**

Identify and correct the errors in each of the following statements

1. scanf( “ %d ”, &value );
2. sum = a + b + c ;
3. if (number >= largest); *//remove the semicolon*

largest=number;

1. // program to determine the largest of three integers
2. printf ( “ Remainder of %d divided by %d is %d\n ”, x, y, x%y );

**Question 3**

#include <stdio.h>

int main()

{

int num1, num2,S,P,D,R;

printf("Enter 1st number: ");

scanf("%d", &num1);

printf("Enter 2nd number: ");

scanf("%d", &num2);

S = num1 + num2;

P = num1 \* num2;

D = num1 - num2;

R = num1 % num2;

printf("The sum of the 2 numbers are %d\n", S);

printf("The product of the 2 numbers are %d\n", P);

printf("The difference of the 2 numbers are %d\n", D);

printf("The remainder of the 2 numbers are %d\n", R);

return 0;

}

**Question 4**

#include <stdio.h>

int main()

{

int num1,remainder;

printf("Enter a number: ");

scanf("%d", &num1);

remainder = num1 % 2;

if (remainder == 0)

{

printf("This is an even number\n");

}

if (remainder == 1)

{

printf("This is an odd number\n");

}

return 0;

}

**Question 5**

#include <stdio.h>

int main()

{

int n1, n2, n3, n4, n5;

int num1=42139;

n1 = num1 / 10000;

n2 = num1 / 1000 - n1\*10;

n3 = num1 / 100 - n2 \* 10 - n1 \* 100;

n4 = num1 / 10 - n3 \* 10 - n2 \* 100 - n1 \* 1000;

n5 = num1 / 1 - n4 \* 10 - n3 \* 100 - n2 \* 1000 - n1 \* 10000;

printf("%d %d %d %d %d\n", n1, n2, n3, n4, n5);

return 0;

}

OR

#include <stdio.h>

int main()

{

int n1, n2, n3, n4, n5;

int num1=42139;

n1= num1 / 10000;

num1= num1 % 10000;

n2= num1 / 1000;

num1= num1 % 1000;

n3= num1 / 100;

num1= num1 % 100;

n4= num1 / 10;

num1= num1 % 10;

n5= num1;

printf("%d %d %d %d %d\n", n1, n2, n3, n4, n5);

return 0;

}

**Question 6**

#include <stdio.h>

int main()

{

float Weight, Height, BMI;

printf("Please enter your weight in kg: ");

scanf("%f", &Weight);

printf("Please enter your height in m: ");

scanf("%f", &Height);

BMI = Weight / (Height\*Height);

if (BMI < 18.5)

{

printf("Underweight\n");

}

if (BMI >= 18.5)

{

if (BMI < 25)

{

printf("Normal\n");

}

}

if (BMI >= 25)

{

if (BMI < 30)

{

printf("Overweight\n");

}

}

if (BMI >= 30)

{

printf("Obese\n");

}

return 0;

}

**Question 7**

#include <stdio.h>

int main()

{

int IN,H,M,S;

H = 0;

M = 0;

S = 0;

printf("Enter the total time elapsed in seconds: ");

scanf("%d", &IN);

S = IN;

if (IN >= 60)

{

M = IN / 60;

S = IN % 60;

if (M >= 60)

{

H = M / 60;

M = M % 60;

}

}

printf("The time elapsed in hours, minutes and seconds is %d:%d:%d\n",H,M,S);

return 0;

}