**TUTORIAL 5 SOLUTIONS**

**Question 1**

#include <stdio.h>

int main()

{

int marks[10], count;

for (count = 0; count<10; count++)

{

printf("The your mark: ");

scanf("%d", &marks[count]);

}

printf("Student\tMarks\n");

for (count = 0; count<10; count++)

{

printf("%d\t%d\n", count + 1, marks[count]);

}

return 0;

}

**Question 2**

#include <stdio.h>

int main()

{

int common[10], C1, C2, C3, count;

int num1[] = { 12,23,42,21,32,65,34,60,89,55 };

int num2[] = { 78,98,23,54,12,65,67,98,34,75 };

count = 0;

for (C1 = 0; C1<10; C1++)

{

for (C2 = 0; C2<10; C2++)

{

if (num1[C1] == num2[C2])

{

common[count] = num1[C1];

count = count + 1;

}

}

}

printf("The common values are:\n");

for (C3 = 0; C3<count; C3++)

{

printf("%d\n", common[C3]);

}

return 0;

}

**Question 3**

#include <stdio.h>

int Minimum(int x[12]);

int main()

{

int smallest;

int num1[] = { 12,23,42,21,32,65,34,60,89,55,8,98 };

smallest = Minimum(num1);

printf("The smallest value of the array is:%d\n", smallest);

return 0;

}

int Minimum(int x[12])

{

int count, min;

min = x[0];

for (count = 1; count<12; count++)

{

if (min>x[count])

{

min = x[count];

}

}

return min;

}

**Question 4**

#include <stdio.h>

void stringReverse(char In[50]);

int main()

{

char InStr[50];

printf("Enter a string: ");

scanf("%s", InStr);

stringReverse(InStr);

return 0;

}

void stringReverse(char In[50])

{

int n, count = 0;

while (1)

{

if (In[count] == '\0')

{

break;

}

count = count + 1;

}

printf("The reverse of the string is: ");

for (n = count - 1; n >= 0; n--)

{

printf("%c ", In[n]);

}

}

**Question 5**

#include <stdio.h>

int main()

{

int row1, col1, row2, col2, n, m, i, total;

int Mat1[50][50], Mat2[50][50], Res[50][50];

printf("Enter number of rows for the 1st matrix: ");

scanf("%d", &row1);

printf("Enter number of columns for the 1st matrix: ");

scanf("%d", &col1);

printf("Enter number of rows for the 2nd matrix: ");

scanf("%d", &row2);

printf("Enter number of columns for the 2nd matrix: ");

scanf("%d", &col2);

if (col1 != row2)

{

printf("Matrix size not compatible for multiplication operation.\n");

}

else

{

//Input values for the 1st Matrix

for (n = 0; n<row1; n++)

{

for (m = 0; m<col1; m++)

{

printf("Enter value for 1st matrix (row %d col %d): ", n + 1, m + 1);

scanf("%d", &Mat1[n][m]);

}

}

//Input values for the 2nd Matrix

for (n = 0; n<row2; n++)

{

for (m = 0; m<col2; m++)

{

printf("Enter value for 2nd matrix (row %d col %d): ", n + 1, m + 1);

scanf("%d", &Mat2[n][m]);

}

}

//Multiplication Calculation

//Determine location of result matrix

for (n = 0; n<row1; n++)

{

for (m = 0; m<col2; m++)

{

//Calculate result for this location

total = 0;

for (i = 0; i<col1; i++)

{

total = total + Mat1[n][i] \* Mat2[i][m];

}

Res[n][m] = total;

}

}

//Output of Result

printf("\nThe result is:\n");

for (n = 0; n<row1; n++)

{

for (m = 0; m<col2; m++)

{

printf("%d\t", Res[n][m]);

}

printf("\n");

}

}

return 0;

}