**REVISION 1 SOLUTIONS**

**Question 1**

#include<stdio.h>

int Square(int a);

int Cube(int b);

int Quartic(int c);

int Quintic(int d);

int main()

{

int n;

printf("A TABLE OF POWERS\n");

printf("-----------------\n\n");

printf("%7s%10s%10s%10s%10s\n", "Integer", "Square", "Cube", "Quartic", "Quintic");

printf("%7s%10s%10s%10s%10s\n", "-------", "------", "----", "-------", "-------");

for (n = 1; n <= 25; n++)

{

printf("%7d%10d%10d%10d%10d\n", n,Square(n),Cube(n),Quartic(n),Quintic(n));

}

return 0;

}

int Square(int a)

{

return a\*a;

}

int Cube(int b)

{

return b\*b\*b;

}

int Quartic(int c)

{

return Square(c)\*Square(c);

}

int Quintic(int d)

{

return Square(d)\*Cube(d);

}

**Question 2**

#include<stdio.h>

void order\_chars(char \* a, char \* b, char \* c);

int main()

{

char c1, c2, c3;

c1 = 'C';

c2 = 'B';

c3 = 'D';

printf("Before: %c %c %c\n", c1, c2, c3);

order\_chars(&c1,&c2,&c3);

printf("After: %c %c %c\n", c1, c2, c3);

return 0;

}

void order\_chars(char \* a, char \* b, char \* c)

{

char low,mid,high;

if (\*a < \*b & \*a < \*c)

{

low = \*a;

if (\*b < \*c)

{

mid = \*b;

high = \*c;

}

else

{

mid = \*c;

high = \*b;

}

}

else if (\*b < \*c)

{

low = \*b;

if (\*a < \*c)

{

mid = \*a;

high = \*c;

}

else

{

mid = \*c;

high = \*a;

}

}

else

{

low = \*c;

if (\*a < \*b)

{

mid = \*a;

high = \*b;

}

else

{

mid = \*b;

high = \*a;

}

}

\*a = low;

\*b = mid;

\*c = high;

}

//Another possible solution for Question 2 using bubble sorting

#include<stdio.h>

void order\_chars(char \* a, char \* b, char \* c);

int main()

{

char c1, c2, c3;

c1 = 'C';

c2 = 'B';

c3 = 'D';

printf("Before: %c %c %c\n", c1, c2, c3);

order\_chars(&c1,&c2,&c3);

printf("After: %c %c %c\n", c1, c2, c3);

return 0;

}

void order\_chars(char \* a, char \* b, char \* c)

{

int n, swap;

char temp;

//bubble sort

while (1)

{

swap = 0;

if (\*a > \*b)

{

temp = \*a;

\*a = \*b;

\*b = temp;

swap = 1;

}

if (\*b > \*c)

{

temp = \*b;

\*b = \*c;

\*c = temp;

swap = 1;

}

if (swap == 0)

{

break;

}

}

}

**Question 3**

#include<stdio.h>

int main()

{

int barcode[100],count=0,n;

while (1)

{

printf("Enter the barcode value or -1 to quit: ");

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

if (barcode[count] == -1)

{

break;

}

count = count + 1;

}

printf("\nThe barcodes entered:\n");

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

{

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

}

return 0;

}