

Q1

```
obelix.gaul.csd.uwo.ca[62]% gcc -lm -o prog1 prog1.c
```

```
obelix.gaul.csd.uwo.ca[63]% ./prog1
```

```
Please enter a positive integer to compute: 10
```

```
After 10 times compute, the value of Pi = 3.200000e+00
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[64]% ./prog1
```

```
Please enter a positive integer to compute: 100
```

```
After 100 times compute, the value of Pi = 3.040000e+00
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[65]% ./prog1
```

```
Please enter a positive integer to compute: 1000
```

```
After 1000 times compute, the value of Pi = 3.176000e+00
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[66]% ./prog1
```

```
Please enter a positive integer to compute: 100000
```

```
After 100000 times compute, the value of Pi = 3.142520e+00
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[67]% ./prog1
```

```
Please enter a positive integer to compute: 1000000
```

```
After 1000000 times compute, the value of Pi = 3.143368e+00
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[68]% ./prog1
```

```
Please enter a positive integer to compute: 10000000
```

```
After 10000000 times compute, the value of Pi = 3.142621e+00
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[69]% ./prog1
```

```
Please enter a positive integer to compute: 100000000
```

```
After 100000000 times compute, the value of Pi = 3.141299e+00
```

```
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
```

Q2

```
obelix.gaul.csd.uwo.ca[15]% gcc -o prog2 prog2.c
```

```
obelix.gaul.csd.uwo.ca[16]% ./prog2
```

```
Enter size of magic square: 1
```

```
1
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[17]% ./prog2
```

```
Enter size of magic square: 3
```

```
8   1   6
```

```
3   5   7
```

```
4   9   2
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[18]% ./prog2
```

```
Enter size of magic square: 4
```

```
Invalid input. Please input an odd integer between 1 and 13: 5
```

```
17  24  1   8  15
```

```
23  5   7  14  16
```

```
4   6  13  20  22
```

```
10  12  19  21  3
```

```
11  18  25  2   9
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[19]% ./prog2
```

```
Enter size of magic square: 11
```

```
68  81  94  107 120 1   14  27  40  53  66
```

```
80  93  106 119 11  13  26  39  52  65  67
```

```
92  105 118 10  12  25  38  51  64  77  79
```

```
104 117 9   22  24  37  50  63  76  78  91
```

```
116 8   21  23  36  49  62  75  88  90  103
```

```
7   20  33  35  48  61  74  87  89  102 115
```

```
19  32  34  47  60  73  86  99  101 114 6
```

```
31  44  46  59  72  85  98  100 113 5   18
```

```
43  45  58  71  84  97  110 112 4   17  30
```

```
55  57  70  83  96  109 111 3   16  29  42
```

```
56  69  82  95  108 121 2   15  28  41  54
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
obelix.gaul.csd.uwo.ca[20]% ./prog2
```

93	108	123	138	153	168	1	16	31	46	61	76	91
107	122	137	152	167	13	15	30	45	60	75	90	92
121	136	151	166	12	14	29	44	59	74	89	104	106
135	150	165	11	26	28	43	58	73	88	103	105	120
149	164	10	25	27	42	57	72	87	102	117	119	134
163	9	24	39	41	56	71	86	101	116	118	133	148
8	23	38	40	55	70	85	100	115	130	132	147	162
22	37	52	54	69	84	99	114	129	131	146	161	7
36	51	53	68	83	98	113	128	143	145	160	6	21
50	65	67	82	97	112	127	142	144	159	5	20	35
64	66	81	96	111	126	141	156	158	4	19	34	49
78	80	95	110	125	140	155	157	3	18	33	48	63
79	94	109	124	139	154	169	2	17	32	47	62	77

```
obelix.gaul.csd.uwo.ca[15]% gcc -o prog3 prog3.c
obelix.gaul.csd.uwo.ca[16]% ./prog3
Enter a dollar amount: 20
$20 bills: 1
$10 bills: 0
$5 bills: 0
$2 bills: 0
$1 bills: 0
```

```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
obelix.gaul.csd.uwo.ca[18]% ./prog3
Enter a dollar amount: 3963

```

\$20 bills: 198
\$10 bills: 0
\$5 bills: 0
\$2 bills: 1
\$1 bills: 1

%%

obelix.gaul.csd.uwo.ca[19]% ./prog3

Enter a dollar amount: 304850

\$20 bills: 15242
\$10 bills: 1
\$5 bills: 0
\$2 bills: 0
\$1 bills: 0

%%

obelix.gaul.csd.uwo.ca[20]% ./prog3

Enter a dollar amount: 423443333

\$20 bills: 21172166
\$10 bills: 1
\$5 bills: 0
\$2 bills: 1
\$1 bills: 1

%%

obelix.gaul.csd.uwo.ca[22]% ./prog3

Enter a dollar amount: 15

\$20 bills: 0
\$10 bills: 1
\$5 bills: 1
\$2 bills: 0
\$1 bills: 0

%%

obelix.gaul.csd.uwo.ca[23]% ./prog3

Enter a dollar amount: 1999

\$20 bills: 99
\$10 bills: 1
\$5 bills: 1

\$2 bills: 2
\$1 bills: 0

%%

obelix.gaul.csd.uwo.ca[24]% ./prog3

Enter a dollar amount: 29998

\$20 bills: 1499

\$10 bills: 1

\$5 bills: 1

\$2 bills: 1

\$1 bills: 1

%%

obelix.gaul.csd.uwo.ca[25]% ./prog3

Enter a dollar amount: 99999

\$20 bills: 4999

\$10 bills: 1

\$5 bills: 1

\$2 bills: 2

\$1 bills: 0